BARTELL MORRISON INC.

INSTRUCTION MANUAL & PARTS BOOK

WALK-BEHIND POWER TROWEL

MODELS
B430 / B436 / B436E / B440 / B446

Use this guide along with the parts lists attached to locate and identify components of your trowel. When ordering replacement parts, be sure to provide the model number and serial number from the trowel.

POWERFUL - EFFICIENT - DEPENDABLE

BARTELL MORRISON INC.
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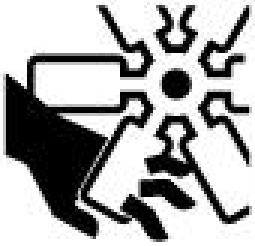
SAFETY PRECAUTIONS	
	⚠ **DANGER** EXPLOSION HAZARD Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes.
	WARNING **BURN HAZARD** Never come into contact with the engine or muffler when engine is operating or shortly after it is turned off. Serious burns may occur.
	⚠ **CAUTION** **ROTATING HAZARD** Never place hands or feet inside safety guard rings. Serious injury will result from contact with rotating blades.
	⚠ **CAUTION** **MOVING PARTS** Before starting the machine ensure that all guards and safety devices are in place and functioning properly.
	⚠ **ATTENTION** **READ OWNERS MANUAL** Read and understand operator's manual before using this machine. Failure to follow operating instructions could result in serious injury or death.

WALK-BEHIND TROWEL INSTRUCTION MANUAL

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QUALITY ASSURANCE / MACHINE BREAK IN

The Bartell Walk-Behind Power Trowel is the product of extensive engineering development designed to give long life and unmatched performance. The Walk-Behind Power Trowels are shipped partially assemble, and only require filling with fuel and a brief check of lubricant levels in preparation for operation.

You can help ensure that your Power Trowel will perform at top levels by observing a simple routing on first use. Consider that your new Power Trowel is like a new car. Just as you would break in a new car to the road or any new machine to the job, you should start gradually and build up to full use. Learn what your machine can do and how it will respond. Refer to the engine manufacturer's manual for run-in times. Full throttle and control may be used after this time period, as allowed by material. This will serve to further break in the machine on your specific application, as well as provide you with additional practice using the machine.

We thank you for the confidence you have placed in us by purchasing a Bartell Walk-Behind Power Trowel and wish you many years of satisfied use.

WALK-BEHIND POWER TROWEL WARRANTY

- All products sold by Bartell Morrison Inc. are warranted against defects in materials and/or workmanship; excluding normal wear on wearing components and components covered by a separate original manufacturers warranty, for a period of 24 months from the date of sale to the original end user purchaser provided that certain conditions have been met.

  Conditions:

  1. The equipment serial number has been registered with Bartell Morrison Inc. or its approved dealers, distributors, representatives or agents.
  2. The equipment has been operated in an appropriate manner by qualified individuals.
  3. The equipment has been properly maintained as per the instructions included in the Owner's Manual.
  4. All claims for warranty must be filed on proper forms and include the serial number of the equipment along with proof of purchase.

  Any evidence of failure to meet these conditions may result in a denial of the warranty claim.
- Consideration of warranty claims will be at the sole discretion of Bartell Morrison Inc., or its authorized dealers, distributors, representatives or agents.
- Bartell Morrison Inc. may, at its discretion, request that the equipment to be considered for warranty be returned at the owner's expense to an authorized repair facility for inspection.
- Under this warranty we may, at our discretion, repair or replace a part or the whole of the defective component or equipment.
- Our Warranty coverage is limited to the cost to repair or replace the defective portion of the equipment and a reasonable (as determined by Bartell Morrison Inc.) amount of labour to conduct the repair or replacement. Under no circumstances shall Bartell Morrison Inc. be liable for any additional or exceptional costs beyond the cost to repair or replace the defective portion of the equipment. Bartell Morrison Inc. shall not be held accountable for; costs associated with travel to inspect or repair defective equipment, costs for transporting defective equipment to or from an authorized repair facility, costs incurred to repair or replace the defective equipment at any facility other than one authorized by Bartell Morrison Inc., or ancillary damage caused by or as a result of the defective equipment.
- Under no circumstances shall equipment be returned to Bartell Morrison Inc. or its authorized dealers, distributors, representatives or agents without the approval of Bartell Morrison Inc. as evidenced by a Returned Goods Number. To obtain a Returned Goods Number contact the factory or your authorized dealer, distributor, representative or agent.
- This warranty is for the sole benefit of the original end user purchaser and is not transferable to any other company or person.

PREVENTATIVE MAINTENANCE AND ROUTINE SERVICE PLAN

This Walk-Behind Power Trowel has been assembled with care and will provide years of service. Preventative maintenance and routine service are essential to the long life of your Power Trowel. Your dealer is interested in your new machine and has the desire to help you get the most value from it. After reading through this manual thoroughly, you will find that you can do some of the regular maintenance yourself. However, when in need of parts or major service, be sure to see your Bartell dealer. For your convenience we have provided this space to record relevant data about your Walk-Behind Power Trowel. When in need of parts or service be prepared to provide your Trowel serial number. Locate the serial number now and record in the space below.

Date Purchased:		Type of Machine:	
Dealer Name:		Model:	
Dealer Phone:		Serial Number:	

REPLACEMENT PARTS USED				MAINTENANCE LOG	
PART NO.	QUANTITY	COST	DATE	DATE	OPERATION

Routine Service Intervals		Each use	After 1.5 months or 50 hrs	Each 3 months or 100 hrs	Each 6 months or 200 hrs	Each 9 months or 300 hrs	Each 12 months or 400 hrs
General Inspection:							
Guards	Check		o	o	o	o	o
Warning stickers	Check		o	o	o	o	o
Test run:	Check operation		o	o	o	o	o
Controls:							
Dead-man switch operation	Check	o	o	o	o	o	o
Pitch control	Check	o	o	o	o	o	o
	Lubricate		o	o	o	o	o
Engine:							
Engine oil	Check Level	o	o	o	o	o	o
	Change		o		o		o
Engine oil filter	Replace				o		o
Oil cooler	Clean			o	o	o	o
Cooling Fins	Clean		o	o	o	o	o
Air cleaner	Check - clean	o	o	o	o	o	o
	Replace						o
Air Intake Line	Check				o		
	Replace						2 yrs
Fan Belt	Check tightness				o		o
	Replace						500 hrs
Valve clearance	Check-adjust				o		o
Fuel filter	Check & Clean			o	o	o	o
	Replace				o		o
Fuel Tank	Clean						500 hrs
Engine wiring	Check						o

Routine Service Intervals

Due to the nature and environment of use, Walk-Behind Power Trowels could be exposed to severe operating conditions. Some general maintenance guidelines will extend the useful life of your trowel.

- The initial service for your power trowel should be performed after 25 hours of use, at which time your mechanic (or authorized repair shop) should complete all of the recommended checks in the schedule above. The chart on page 6 (six) is handy for keeping a record of the maintenance performed and the parts used for servicing your trowel.
- Regular service according to the schedule above will prolong the life of the Walk-Behind Power Trowel and prevent expensive repairs.
- Keeping your Walk-Behind Power Trowel clean and free from debris is the single most important regular maintenance operation, over and above the checks in the service schedule above, that can be performed. After each use your Walk-Behind Power Trowel should be cleaned to remove any dust and debris from the undercarriage and surrounding components. Use of a power washer will make clean up quick and easy, especially if a non-stick coating was applied prior to use.
- In the Service Schedule above, items that should be checked, replaced or adjusted are indicated by “o” in the appropriate column. Not all Walk-Behind Power Trowel models include the same features and options and as such not all service operations may have to be performed. For ease of recording place a checkmark (√) through the “o” when the item is complete. If an item is not required or not completed place an “x” through the “o” in the box.
- All Walk-Behind Power Trowels have governed engine speed of 3600 rpm. See engine manufacturer’s manual for exact specifications. Care should be used when making any adjustments to the Walk-Behind Power Trowel not to change the governed speed.
- Failure to have your Walk-Behind Power Trowel regularly serviced and properly maintained in accordance with the manufacturer’s instructions will lead to premature failure and void the warranty.

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SAFETY PRECAUTIONS

- Always keep unauthorized, inexperienced, untrained people away from this machine.
- Rotating and moving parts will cause injury if contacted. Make sure guards are in place. Keep hands and feet away from moving parts.
- Fuel the machine only when the engine is stopped, using all necessary safety precautions.
- The engine must always be stopped before attempting any repair or adjustments. Ignition switch should be off.
- Be careful not to come in contact with the muffler when the engine is hot, serious burns may result!

DANGER:
Never operate the machine in an explosive atmosphere, near combustible materials or where ventilation does not clear exhaust fumes. Repair fuel leaks immediately. Refer to your engine owner's manual for more safety instructions.

ASSEMBLY INSTRUCTIONS

Your new Bartell Walk-Behind Power Trowel has been shipped to you partially assembled. Filling the fuel tank and a brief check of lubricant levels in preparation for operation is required. To complete the assembly the following instructions will be helpful.

1. **TROWELS** – Attach trowel blades with screws and lock washers supplied. See (A) and (B) Fig. 1. Be careful that adjusting screw (C) does not protrude below arm when attaching blades. This could cause the machine to jump and promote excessive wear in operation.
2. **STABILIZER RING** – (if supplied) Install using screws, bushings and lock washers supplied. See Fig. 1 (D)
3. **HANDLE ASSEMBLY** – Put cable end Fig. 2 (A) through hole in yoke (B) and secure with nut (C), then install handle bracket on gearbox. To get proper cable tension, turn control knob Fig. 3, counter-clockwise to stop position. Guide screw (B) will now be at the bottom slot. Tighten nut Fig. 4 (A) until slack is removed from point (B) as indicated. If more than 2 or 3 threads show through, then nut should be turned back.
   Guide screw, Fig. 3 (B) should be moved to next lower hole in slide bushing and cable re-adjusted as above. Turn hand knob completely clockwise and check for clearance between yoke and gearbox at point (C) Fig. 4. There should be enough space to pass a business card through.
4. **STATIONARY RING** – Install stationary ring as shown in Fig. 5 with the side bar on engine recoil side. (May not be exactly as shown). Install rubber bushings (A) on top and bottom of mounting plate. Install metal caps (B). Place ring on top and run screw (C) through caps and rubbers. Tighten lock nut (D) securely on bottom. It is best to start nuts on all 4 corners before tightening.
5. **ENGINE CONTROLS** – Attach throttle control to handle with screws provided. See DIAGRAM 1 below for your engine model hook-up. For safety switch connection, attach wire to terminal provided at "ON/OFF" location.
   The throttle cable must be cut and formed to fit. Feed the cable through the cable clamp on the engine. Pull the cable through the clamp until it forms a smooth arc from the handle to the engine. Mark the cable at the clamp and pull the cable back from the casing at the throttle. Without cutting the cable, Cut casing at the mark and push the cable back through fresh cut end. Form a small "L" bend in the cable, hook the inner cable into the throttle block and tighten cable clamp down onto the casing. With thumb lever and throttle block in the fully open position, cut the inner cable by the thumb lever, leaving enough wire exposed to secure to the lever. Insert the cable into the fitting and tighten the screw. Restore throttle to idle position.

IMPORTANT:
Before running machine with belt installed, ensure that engine idles properly and that the safety-switch shuts off the engine.

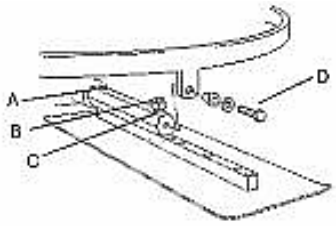
6. **BELT GUARD** – Install after machine has been tested, taking care that it does not touch clutch or pulley.

ATTENTION:
For any information regarding engine adjustments, please refer to the engine manual supplied.

WALK-BEHIND TROWEL INSTRUCTION MANUAL

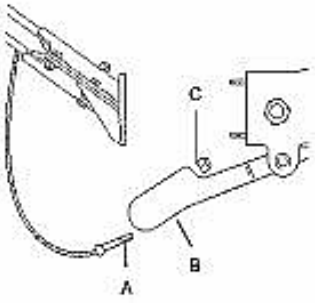
DIAGRAM 1

Fig. 1



REFER TO
ENGINE MANUAL
FOR THROTTLE
CONTROL SETTING

Fig. 2



Honda—
GX160 5.5 H.P.
GX270 8 H.P.
GX340 10 H.P.
Shown in
fast
position

REFER TO
ENGINE MANUAL
FOR THROTTLE
CONTROL SETTING

Fig. 3

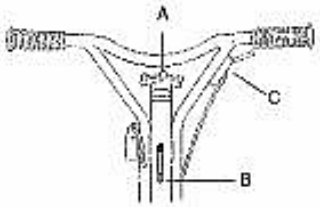
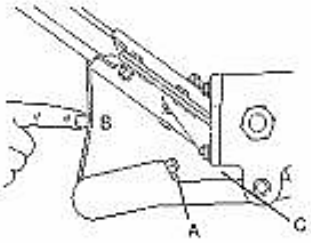


Fig. 4



Wisconsin
Robin—
WI-185 4.6 H.P.
Shown in
fast
position

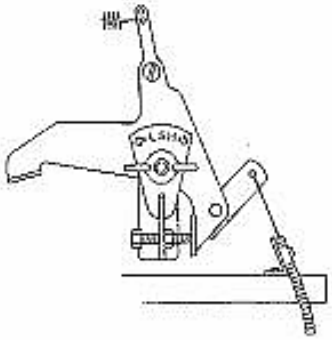
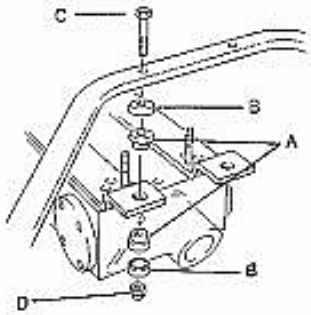
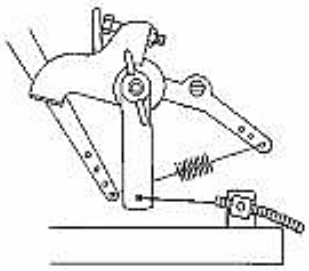


Fig. 5



Wisconsin
Robin—
WI-280 7.5 H.P.
Shown in
fast
position



OPERATION (Floating)

When the slab has set sufficiently firm that the operator's footprint leaves a very slight depression on the surface of the slab, it is ready for the floating operation.

Under normal operating conditions the machine should cover as much as 1000 sq. ft. in about 15 minutes. It is recommended that a slight tension on the trowel control cable, (but *not* a definite tilt), during the floating operation will cause the machine to operate much smoother. After the floated slab has set sufficiently, it is ready for the finishing operation.

CAUTION:
Do not let the machine stand in one spot on the soft cement. Lift from the slab when the floating operation is complete.

OPERATION (Finishing)

When starting the finishing operation, never set the trowels up over 1/4" pitch. This is important. Guiding the machine on the slab is very simple, a slight upward lift of the handle causes the machine to travel to the left. Holding the handle in the neutral position, will slowly cause the machine to spin in one spot. Slight downward pressure on the handle causes the machine to travel to the right. Best results are obtained by covering approximately 4" on each turn. In other words, let the machine move right or left, backwards or forwards, approximately 4" with each revolution of the trowels. To fill a hole or cut down a hump, move the unit back and forth over the problem area.

After the first pass over the slab, the waiting time between operations is determined in the same manner as if you were hand troweling. To repeat; the entire application and action of the troweling machine in regard to getting on the slab, and the correct pitch of the trowels, is determined in the same manner as would be used by a cement finisher when troweling by hand.

STARTING PROCEDURE: **WARM CLIMATE*

Open fuel valve on gas tank. Set throttle lever to "Fast" idle position, set choke to closed position, start engine. Open choke slightly to prevent flooding. Move to "Open" or "Run" position when engine is warm, increase throttle to maximum operation position (3600 rpm).

STARTING PROCEDURE: **COLD CLIMATE*

Follow same procedure as above but allow longer warm-up period – 3 to 5 minutes. In cold weather, oil is much heavier to move and requires more time to work its way into the moving parts. If maximum power is not attained, allow further warm-up time. Fill fuel tank with clean gasoline, use safety approved gas containers. DO NOT MIX OIL WITH GASOLINE – USE UNLEADED GAS ONLY.

STOPPING PROCEDURE

1. Throttle engine down.
2. Turn off stop switch.

LUBRICATION

1. ENGINE OIL

The long life and successful operation of any piece of machinery is dependent on frequent and thorough lubrication.

Before using the trowel, always check your engine for oil. Use proper engine oil as recommended in the engine manufacturer's manual. Fill crankcase to levels as recommended.

ENGINE OIL SPECIFICATIONS

Season Temperature	Grade of Engine Oil
Spring to Autumn +40°F (4°C) to +120°F (49°C)	SAE 30
Winter +15°F (-9°C) to +40°F (4°C)	SAE 20
Below +15°F (-9°C)	SAE 10W-30

2. SPIDER PLATE

There are 4 (four) grease fittings on the spider plate, each must be greased daily. ***THE SPIDER PLATE MUST BE GREASED EVERY TIME MACHINE IS USED.***

3. GEARBOX

Check the oil level sight plugs on both gearboxes daily to ensure the oil is half way on the site glass. Top up with Agma 8 compounded gear oil only. Gearbox capacity 16 oz. to 19 oz. (473ml. To 562ml.) Example: Esso/Exxon Cylesstic TK680.

4. TO CHANGE GEARBOX OIL

Place a pan beneath the drain plug to catch the oil. Remove the drain plug and the filler plug from the gearbox. After the oil has drained completely, replace the drain plug and tighten. Fill the gearbox through the filler plug with 16 oz. to 19 oz. (473ml. To 562ml.) of Agma 8 compounded gear oil. Replace the filler plug and tighten.

STORAGE

The following steps should be taken to prepare your Walk-Behind Power Trowel for extended storage.

1. Close fuel shut off valve.
2. Siphon excess gasoline from tank.
3. Start engine until it stops from lack of fuel. This will use up all the fuel in the carburetor and prevent formation of deposits due to evaporation of fuel.
4. Remove spark plug and pour 2 oz. of SAE-30 or SAE-40 motor oil into the cylinder. Slowly crank the engine 2 or 3 times to distribute the oil throughout the cylinder. This will help prevent rust during storage. Replace spark plug.
5. Store the unit in an upright position in a cool, dry, well ventilated area.

MAINTENANCE

Maintaining your Walk-Behind Power Trowel will insure long life to the machine and its components.

AIR CLEANER - Keep air filter clean at all times. Wash away dust and debris using a non-oil based cleaning solvent. Let the filter dry before re-installing.

LUBRICATION – Check engine oil regularly. Use proper engine oil as recommended. See previous chart. Fill crankcase to levels as recommended in manufacture's engine manual.

SPARK PLUG – Check and clean spark plugs regularly. A fouled, dirty or carboned spark plug causes hard starting and poor engine performance. Set spark plug gap to recommended clearance. Refer to engine manual.

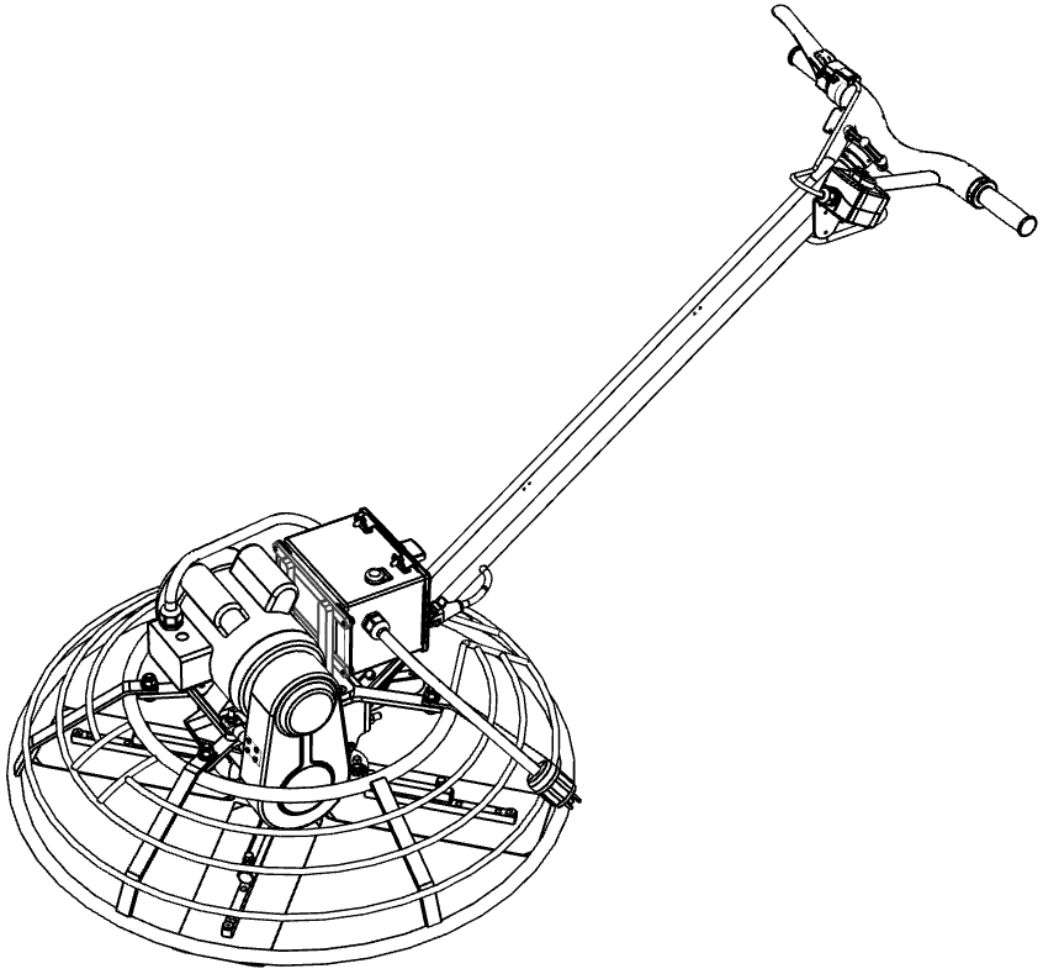
BELT TENSION – *IMPORTANT!*

If there is excessive belt play, there will be a decrease in the power transmission capability which could lead to premature wear and failure of the belt. The normal belt play should be 1/2" to 5/8" which is attained by depressing one side of the belt at the mid-point of the span between pulleys. Tighten all engine mount fasteners.

CHART FOR MINIMUM WIRE SIZE OF EXTENSION CORD

Nameplate AMPS	CORD LENGTH			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	(NOT RECOMMENDED)	

ELECTRIC POWER TROWEL OPERATION



The electric models of Bartell Power Trowels require appropriate power sources, connections, extension cords, and surge protection. Bartell Morrison Inc. is not responsible for damage to person or property due to improper use or setup of an Electric Power Trowel. Select your power supply and other provisions based on the specific type of trowel being operated.

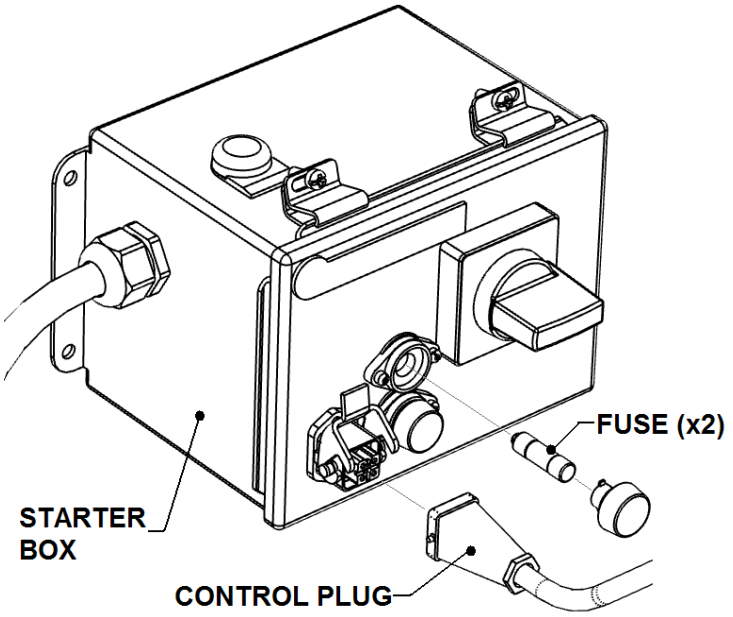
While the Electric Power Trowel has internal surge protection to protect the motor, electronics, and operator from internal power surges, the power supply should be equipped with an appropriate breaker to protect the equipment and personnel on the job site from potential harm from a damaged power supply cord.

The following safety precautions should always be observed when operating Bartell Electric Power Trowels, in addition to the stated precautions for regular power trowels:

- The operator is responsible for the protection of the electrical power supply cord. Do not let the cord come into contact with the trowel blades under any circumstances. If the cord does touch the blades, immediately power down the trowel, unplug the electrical supply, and inspect the cord for damage. Cords with damaged insulation should be replaced immediately.
- If the trowel blades stick or jam a surge will be created, tripping the external breaker. Avoid starting the trowel after sitting on green concrete for extended periods without first breaking the bond or applying some water to the surface for lubrication. Avoid hitting obstacles with the blades as this can cause physical damage to the blades, transmission, or trip the breaker.

- While the trowel should be cleaned daily, and the electronic components are splash-resistant, avoid spraying water or other liquids directly on the motor, starter box, or handle controls, as this can damage the electronics. Never immerse the trowel in water. If water intrusion into the electronics is suspected, have the trowel inspected by an authorized BMi representative before operating.
- Do not attempt to disable the electric safety switch on the right handle of the trowel.
- Do not pull the trowel by the safety switch housing.
- Always unplug the trowel for storage or transportation.

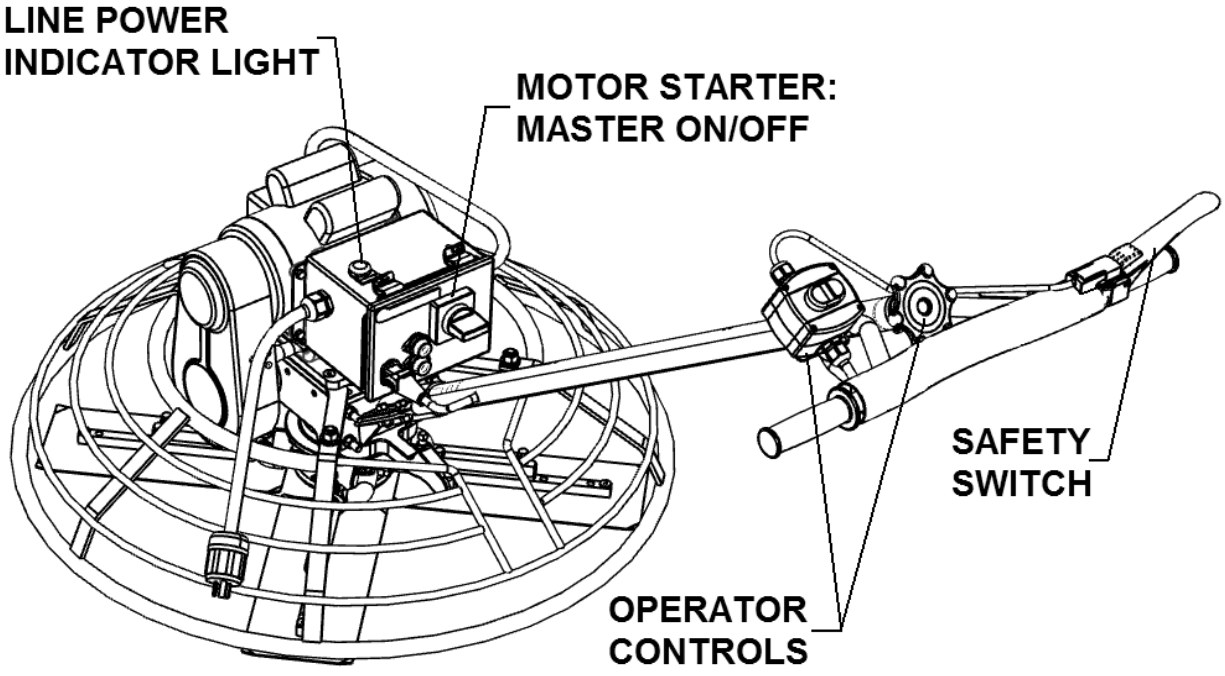
SETTING UP THE ELECTRIC POWER TROWEL



The Bartell Electric Power Trowel ships without the handle attached. When installing the handle, ensure that the control plug at the lower end of the handle is plugged into the receptacle at the lower left of the motor starter box and retained with the clip.

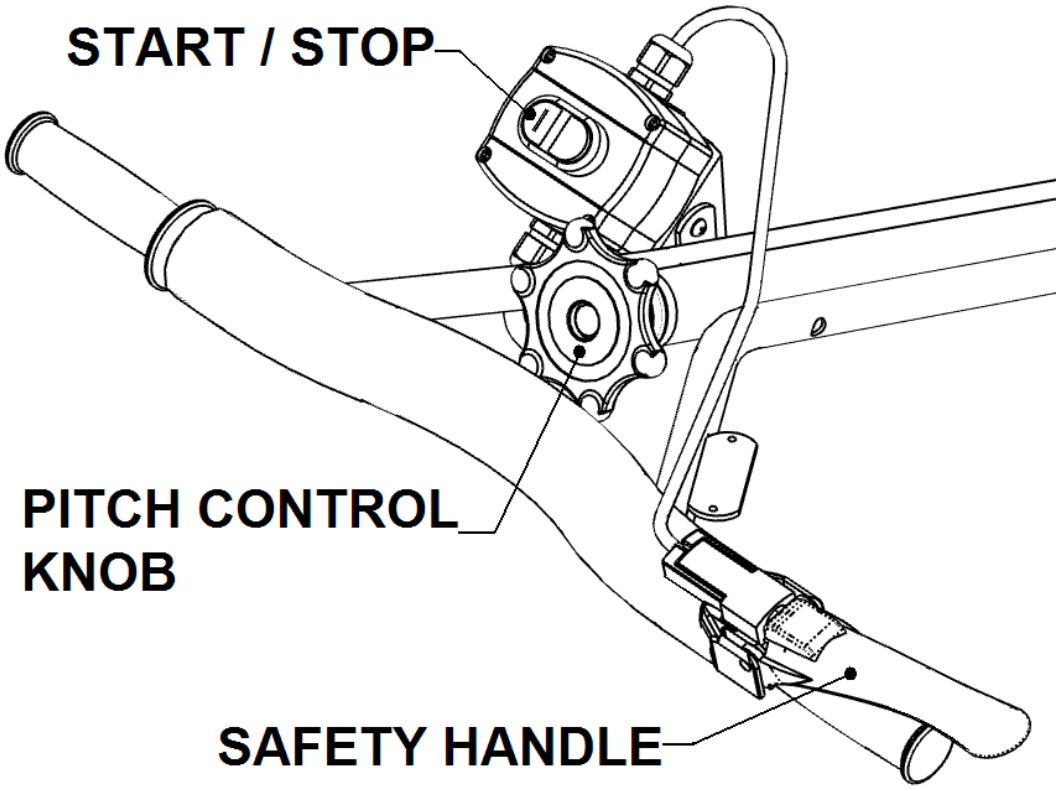
The box is protected with two (2) timed fuses. If your trowel will not start, and the breakers at the line and starter box are ok, then you may need to replace the fuses.

STARTING THE ELECTRIC POWER TROWEL



1. Plug the trowel into the electrical supply. If the line power is on, the green power indicator lamp on the top of the trowel will glow.

2. Turn the master starter switch clockwise to the ON (vertical) position. If it will not stay in the ON position, then turn it fully counterclockwise to the OFF position and try again. The internal breaker of the starter box will not let the master switch be turned on until it has been reset by turning it off.



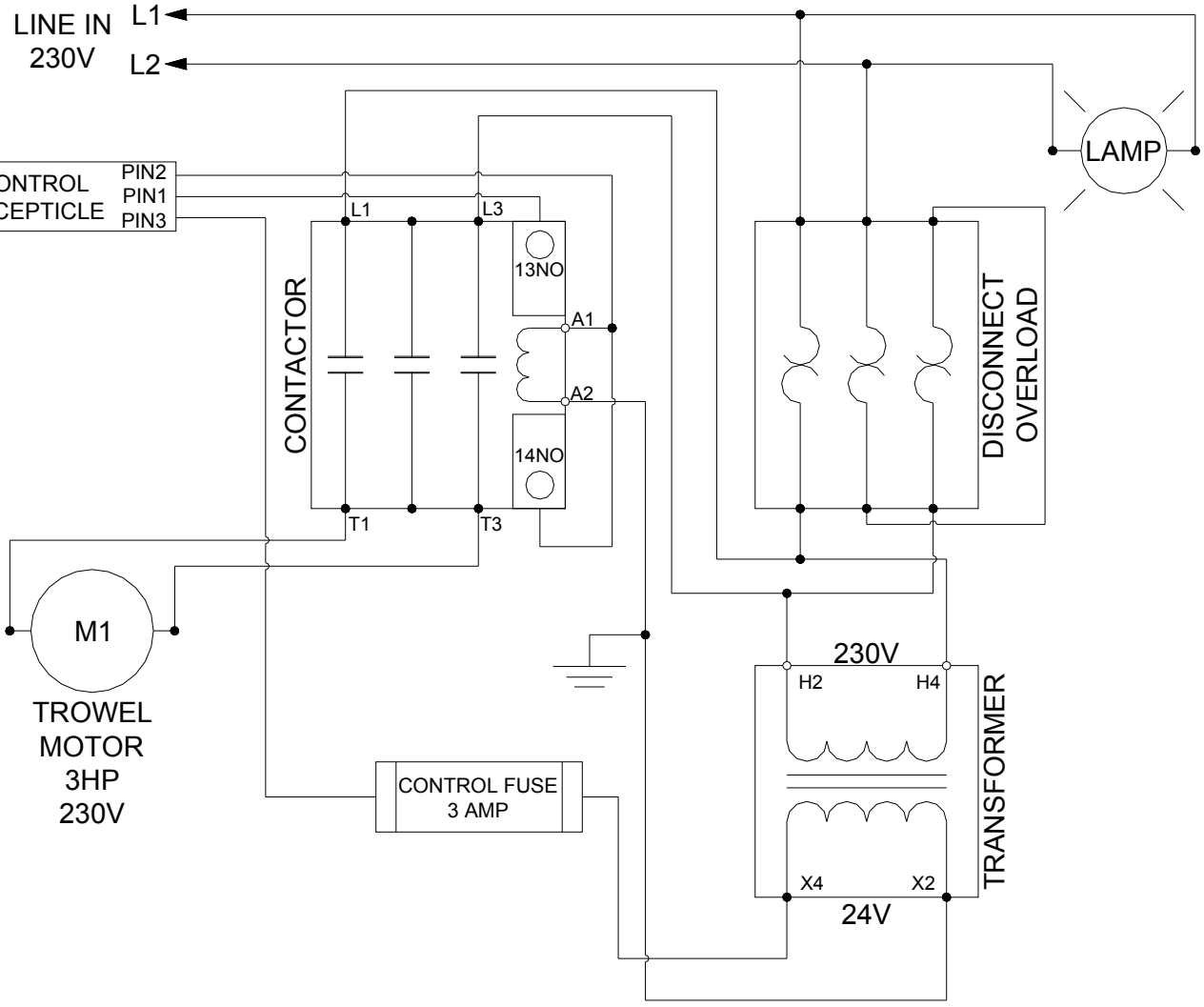
3. With the master switch ON, stand at the operator position behind the handle. The motor will not start until the safety handle is fully depressed, and it will immediately stop if the safety handle is released. Squeeze the safety handle with your right hand until it is fully depressed, and hold this for the duration of operation.

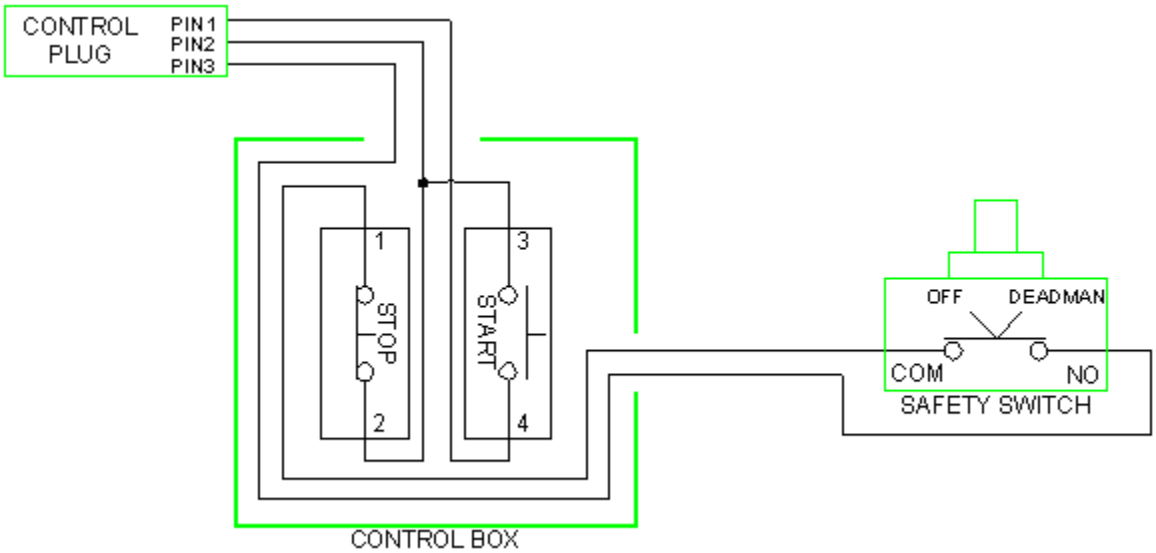
4. Brace your hip against the shield pad on the handle for better control. Bartell Electric Power Trowels operate at a constant speed which is achieved immediately after startup, so there will be some kick. With your left hand, press the green start button. The trowel will immediately begin to turn.

NOTE: If the trowel appears to hesitate or the motor strains for more than 3 seconds, release the safety handle and inspect the blades for any obstructions or bonding to the concrete. Clear the obstacle and try again.

5. To stop the trowel, simply release the safety handle or press the red stop button. Do not release the handles until the blades have stopped rotating. If leaving the trowel for any extended period, turn the master switch to the OFF position.

ELECTRIC POWER TROWEL WIRING DIAGRAM:





TROWEL ARM ADJUSTMENT FIXTURE

PART #20801

Ex: Unit 36" (B436)

1) 10810A – Trowel arm
2) 10817A – Lift lever
3) 10808 – Jam nut
4) 10809 – Set screw
5) 10824 – Block top
6) 10507 – Bolt
7) 10808 – Jam nut
8) 10807 – Carriage bolt
9) 10832 – Adjustment bar
10) 10507 – Bolt

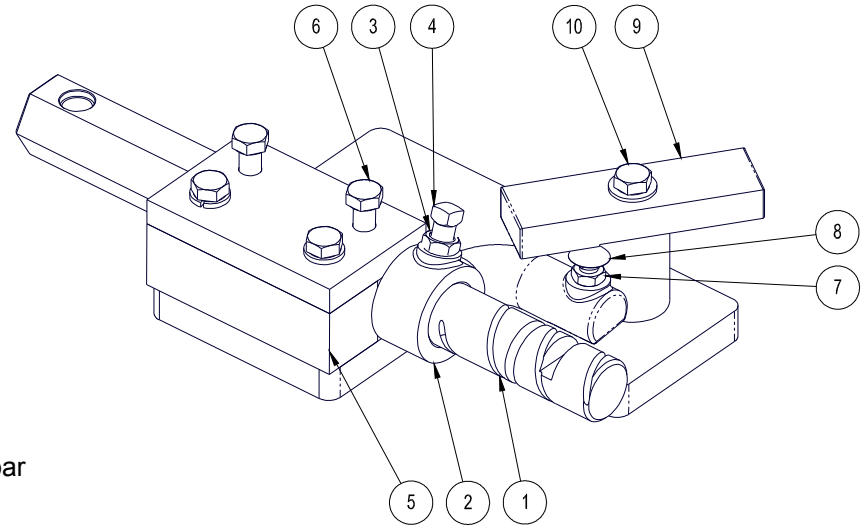


Figure 5a.

The trowel arm adjustment fixture (20801) is reversible. By rotating the arm clamping fixture and the ring bolt, both left hand and right hand trowel arms may be adjusted. Before attempting adjustment, determine whether the trowel arm is right handed or left handed. When adjusting left hand trowel arms use the side of the fixture marked "L". When adjusting right hand trowels arms use the opposite side. The adjustment bar will be set on "36" for the Walk-behind trowel arm.

ADJUSTMENT PROCEDURE

1. Remove all trowel arm assemblies (1 & 2 arm and attached lift lever) from suspected maladjusted spider plate.
2. Remove lift lever (2) from trowel arm (1) by first loosening jam nut (3) then square head screw (4). If upon inspection (method left to discretion of serviceman) any trowel arm (1) is found to be in a bent condition, it must either be brought back to its original straight condition (method left to the serviceman's discretion) or replaced with new part.
3. Replace lift levers (2) on new or straightened arms (1) by reversing procedure as described above.

   NOTE: IT IS IMPORTANT THAT WHEN TIGHTENING SQUARE HEAD NUT (4), IT SEATS ITSELF SECURELY INTO DIMPLE MACHINED IN ARM.
4. Place trowel arm assembly (1 and 2) in fixture (5) with lift lever (2) butting up against fixture. Clamp in place with bolts (6).
5. Loosen locknut (7) and screw carriage bolt (8) down to full depth allowable. This will provide for ample clearance to swing precision ground adjustment bar (9) over head of carriage bolt. Adjustment bar (9) is stamped for appropriate size of machine. Swing appropriate side directly over carriage bolt (8) and secure in place with bolt (10).
6. Adjust carriage bolt (8) upwards until contact is made with adjustment bar (9); holding carriage bolt in position with one wrench, tighten locknut (7) to secure in position with second wrench.

   NOTE: IT IS VITALLY IMPORTANT TO ENSURE THAT ONCE THE CARRIAGE BOLT IS ADJUSTED TO THE CORRECT HEIGHT, IT DOES NOT MOVE BEFORE, OR DURING THE TIGHTENING OF LOCKNUT.
7. This same procedure is to be followed with ALL arms from spider plate assembly, and will ensure correct and exact adjustment.

TROWEL ARM ADJUSTMENT SCREW

The trowel arm adjustment screw is to be used for field adjustment of blade level, in the event of a damaged trowel arm, to enable completion of the job. At the end of the job repairs should be made to eliminate the damage.

When assembling trowel blades to trowel arms, the adjustment screw should NEVER protrude below the under-side surface of a trowel arm.

If the adjustment screw is not flush with the underside of the trowel arm, then this will cause the power trowel to bounce and vibrate especially at high speed. This will also cause the trowel blades to leave an uneven finish to the concrete due to the blades not being level to one another.

Make certain that the adjusting screw is held firmly in place while tightening the bolt which secures the blade to the trowel arm.

ASSEMBLY DRAWINGS AND PARTS LIST

WALK-BEHIND POWER TROWEL ASSEMBLY

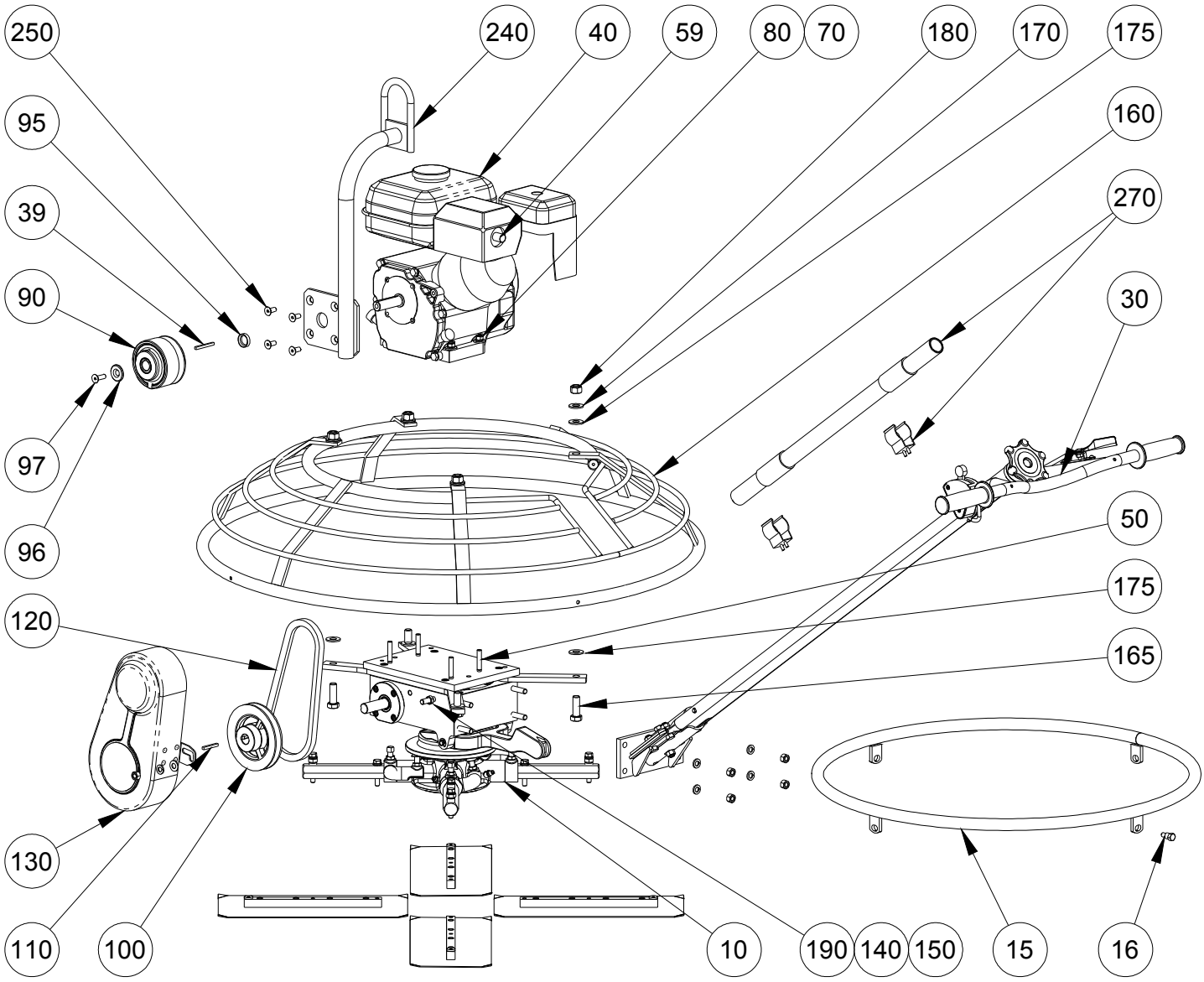


Figure 1 - Complete Trowel

Note: Some parts shown above are optional and may not be included with your trowel. Refer to the attached parts lists for complete list of parts applicable to your trowel.

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Base Unit	70	Lock Washer	120	V Belt	180	Hex Locknut
15	Stab. Ring	80	Hex Nut	130	Belt Guard	190	Stud, Belt Guard
16	Shoulder Bolt	90	Clutch/Drive Sheave	140	Lock Washer	240	Hoist Hook (opt.)
30	Handle Assy	95	Clutch Spacer	150	Hex Nut	250	Flat Head Screw
39	Key, Clutch	96	Clutch Retainer	160	Guard Ring	270	Carry Bar Assy
40	Engine (opt.)	97	Flat Head Screw	165	Hex Hd. Screw		
50	Engine Stud	100	Driven Sheave	170	Flat Washer		
59	Muffler Cap	110	Key, Sheave	175	Rubber Washer		

WALK-BEHIND TROWEL INSTRUCTION MANUAL
CUSTOMER PARTS LIST

Assembly # **Walk-Behind Assembly**
Assembly List

Item #	Part # (430)	Part # (436)	Part # (440)	Part # (446)	Description	Qty	Eff. Date
10	N/A	N/A	N/A	N/A	Base Unit (See Figure 2)	1	6/8/2004
15	N/A	N/A	N/A	20442	Stabilizer Ring	1	8/21/2007
16	N/A	N/A	N/A	10442	Shoulder Bolt	4	8/21/2007
30	20520	20520	20520	20562	Handle Assembly, Standard	1	6/8/2004
39	10206	10206 (5.5HP) 11003 (9HP)	11003	11003	Key, Clutch	1	8/16/2007
40	Engine	Engine	Engine	Engine	Honda, Robin, B&S	1	6/8/2004
50	14278	14278 (5.5HP) 14277 (9HP)	14277	14280	Stud, Combo, Engine Mount	4	6/8/2004
59	11112	11112	11112	11112	Muffler Cap		8/21/2007
70	10402	10402 (5.5HP) 10902 (9HP)	10902	10402	Lock Washer, Engine Mount	4	6/8/2004
80	10915	10915 (5.5HP) 10901 (9HP)	10901	10901	Hex Nut, Engine Mount	4	6/8/2004
90	21006	21006 (5.5HP) 21005 (9HP)	21005	21005	Clutch Assembly	1	6/8/2004
95	11254	11254 (5.5HP) N/A (9HP)	N/A	N/A	Clutch Spacer	1	6/8/2004
96	30042	30042 (5.5HP) N/A (9HP)	N/A	N/A	Clutch Retainer	1	8/16/2007
97	11256	11256 (5.5HP) N/A (9HP)	N/A	N/A	Flat Head Screw	1	8/16/2007
100	14270	14270 (5.5HP) 14285 (9HP)	14285	14285	Sheave, Drive	1	8/16/2007
110	10208	10208	10208	10208	Key, Sheave	1	6/8/2004
120	11030	11030 (5.5HP) 11047 (9HP)	11047	11178	V-Belt	1	8/16/2007
130	21066	21066 (5.5HP) 21067 (9HP)	21067	21065	Belt Guard	1	8/16/2007
140	10902	10902	10902	10902	Lock Washer, 3/8" Dia	1	6/8/2004
150	10901	10901	10901	10901	Hex Jam Nut, 3/8”-16	1	6/8/2004
160	20482	20447	20449	20448	Safety Ring - Removable	1	6/8/2004
165	10955	10955	10955	10955	HHCS, M12-1.75 x 40mm LG.	4	8/16/2007
170	50026	50026	50026	50026	Flat Washer 1/2"	4	6/8/2004
175	11296	11296	11296	11296	5/8" Rubber Washer	8	6/8/2004
180	10956	10956	10956	10956	Nylock Nut, M12-1.75	4	6/8/2004
190	11029	11029	11029	11029	Stud, 3/8”-16 x 1-3/4" LG	1	8/16/2007
240	20189	20189 (5.5HP) 20171 (9HP)	20171	20171	Hoist Hook	1	6/8/2004
250	30041	30041	30041	30041	FHSCS 5/16”-24 x 3/4” LG.	4	6/8/2004
270	20512	20512	20512	20512	Carry Bar Assembly w/ Clips	1	6/8/2004

Rev. 1 Belt for B446 changed, was 11047 (BP28) now 11178 (B29) 10/2005

BASE UNIT ASSEMBLY

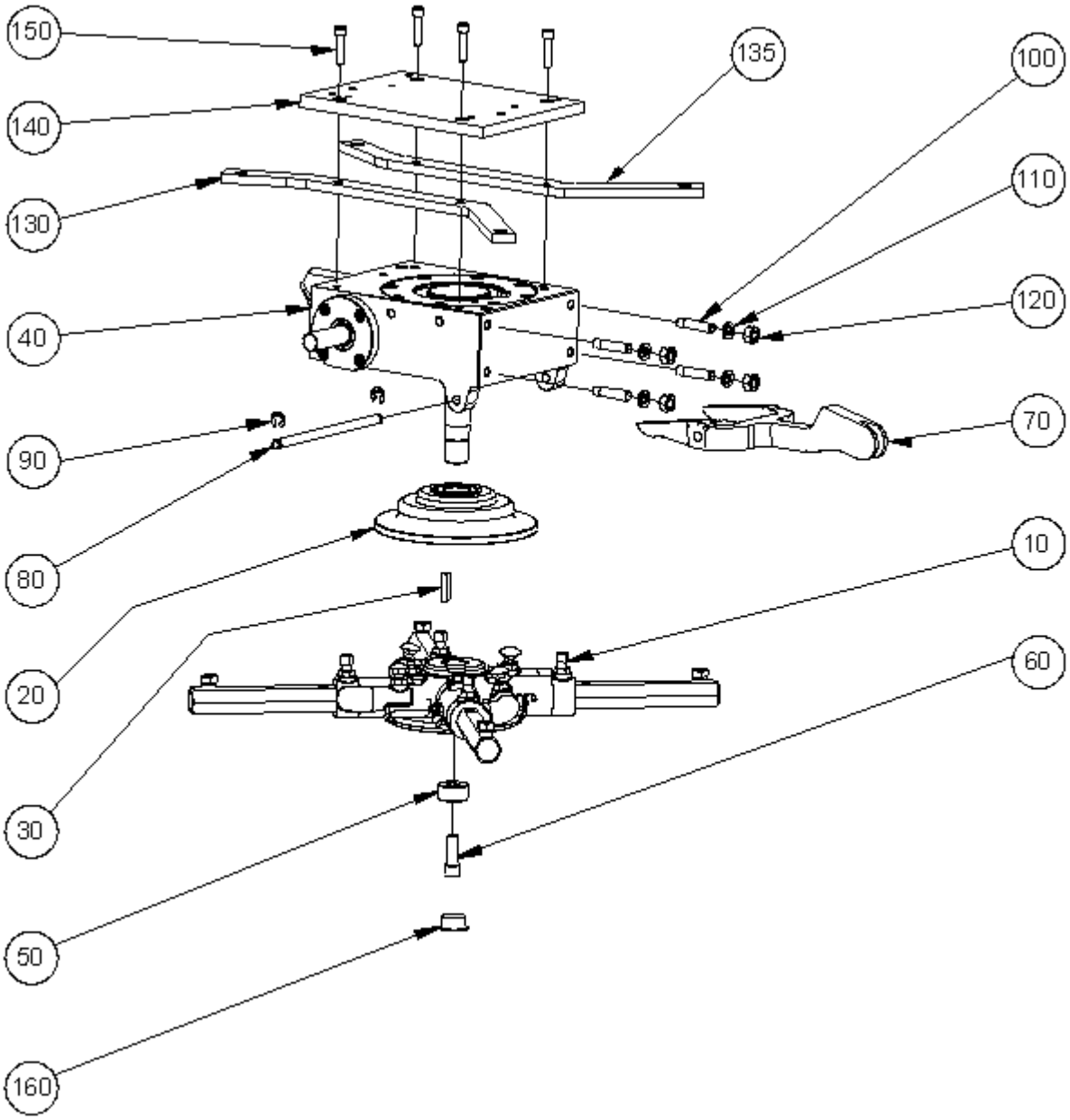


Figure 2 - Base Unit

Item #	Description	Item #	Description	Item #	Description
10	Spider Plate Assy	70	Yoke arm	130	Mounting Rail RH
20	Pressure Plate Assy	80	Pin	135	Mounting Rail LH
30	Key	90	Retaining Ring	140	Engine Plate
40	Gearbox Assy	100	Stud	150	Soc.Hd. Capscrew
50	Retainer	110	Lock Washer	160	Cap Plug
60	Soc.Hd. Capscrew	120	Hex Nut		

Assembly # **Base Unit, B430 / 436 / B446, Greased Spider**
Assembly List

Item #	Part # (430)	Part # (436)	Part # (440)	Part # (446)	Description	Qty	Eff. Date
10	20818	20810	20810L	20820	Spider plate Assembly (See Figure 3, P.19)	1	5/1/2004
20	20627	20627	20627	20626	Pressure Plate Assembly(See Figure 4, P.19)	1	1/1/1997
30	10608	10608	10608	10608	Key, 1/4"Sq x 1-5/32"LG	1	5/1/2002
40	20921	20921	20921	20928	Gearbox Assembly (See Figure 5, P.21)	1	4/7/1998
50	10814	10814	10814	10804	Spider Plate Retainer	1	1/1/1997
60	10812	10812	10812	10802	Socket Head Screw, Retainer	1	1/1/1997
70	10312	10312	10312	10311	Yoke Arm	1	3/1/2004
80	10923	10923	10923	10914	Yoke Pin	1	1/1/1997
90	10922	10922	10922	10913	Retaining Ring, E Type	2	1/1/1997
100	10910	10910	10910	10910	Stud, 3/8"-16 x 1-3/4" LG.	4	1/1/1997
110	10902	10902	10902	10902	Lock Washer, 3/8" Dia, Medium	4	1/1/1997
120	10901	10901	10901	10901	Hex Nut, 3/8"-16	4	1/1/1997
130	14274	14274	14274	14315	Mounting Rail RH	1	9/16/2003
135	14495	14495	14495	14496	Mounting Rail LH	1	7/23/2008
140	14273	14273	14273	14316	Engine Mounting Plate, Metric	1	9/16/2003
150	13585	13585	13585	14317	Socket Head Screw (Engine Mount Plate)	4	9/16/2003
160	10823	10823	10823	10823	Cap Plug EC-12	1	1/1/1997

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SPIDER PLATE ASSEMBLY

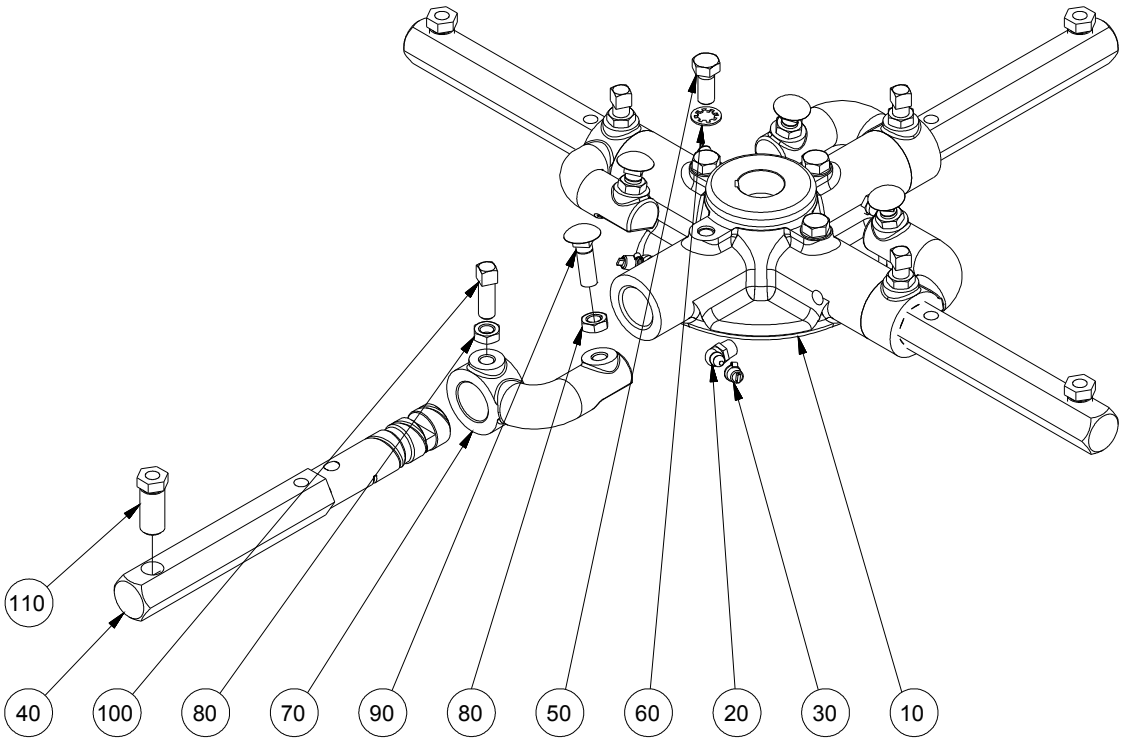

Figure 3 – Greased Spider Plate Assembly

Item #	Description	Item #	Description
10	Spider Plate	70	Lift Lever
20	Grease Fitting	80	Jam Nut
30	Cap	90	Carriage Bolt
40	Trowel Arm	100	Square Head Setscrew
50	Dog Screw	110	Adjuster Bolt
60	Lock Washer		

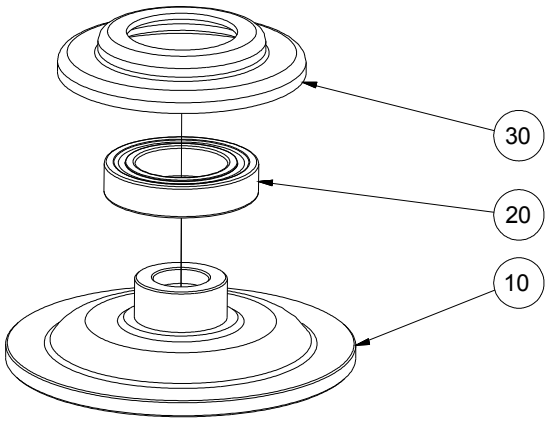

Figure 4 - Pressure Plate Assembly

Item #	Description
10	Pressure Plate
20	Thrust Bearing
30	Pressure Plate Cap

CUSTOMER PARTS LIST

Assembly # **20818 (B430), 20810 (B436), 20810L (B440), 20820 (B446)**
Spider Plate Assembly, Greased

Item #	Part # (430)	Part # (436)	Part # (440)	Part # (446)	Description	Qty	Eff. Date
10	10810	10810	10810	10820	Grease Spider Plate	1	1/1/1997
20	10801	10801	10801	10801	Grease Fitting,1/8npt x 65°	4	1/1/1997
30	10822	10822	10822	10822	Cap plug, Grease Nipple, Red	4	1/1/1997
40	10417	10411	10411L	10405	Trowel Arm	4	9/5/2000
50	10806	10806	10806	10806	HHCS, 3/8-16 x 7/8"LG	4	1/1/1997
60	10805	10805	10805	10805	Lock Washer, 3/8"Dia	4	1/1/1997
70	10817	10817	10817	10819	Lift Lever	4	9/12/2000
80	10808	10808	10808	10808	Jam Nut, 3/8-16	8	1/1/1997
90	10807	10807	10807	10807	Carriage Bolt, 3/8-16 x 1-1/4"LG	4	1/1/1997
100	10809	10809	10809	10809	SHSS, 3/8-16 x 1"LG, CUP PT.	4	1/1/1997
110	10404	10404	10404	10404	Adjusting Screw, 1-1/4" LG	4	1/1/1997

Assembly # **20627 (B430 / B436 / B440), 20626 (B446)**
Pressure Plate Assembly

Item #	Part # (430/436/440)	Part # (446)	Description	Qty	Eff. Date
10	10660	10659	Pressure Plate	1	1/1/1997
20	10664	10663	Thrust Bearing P/P	1	1/1/1997
30	10668	10667	Pressure Plate Cap	1	12/6/2002

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CLUTCH ASSEMBLY

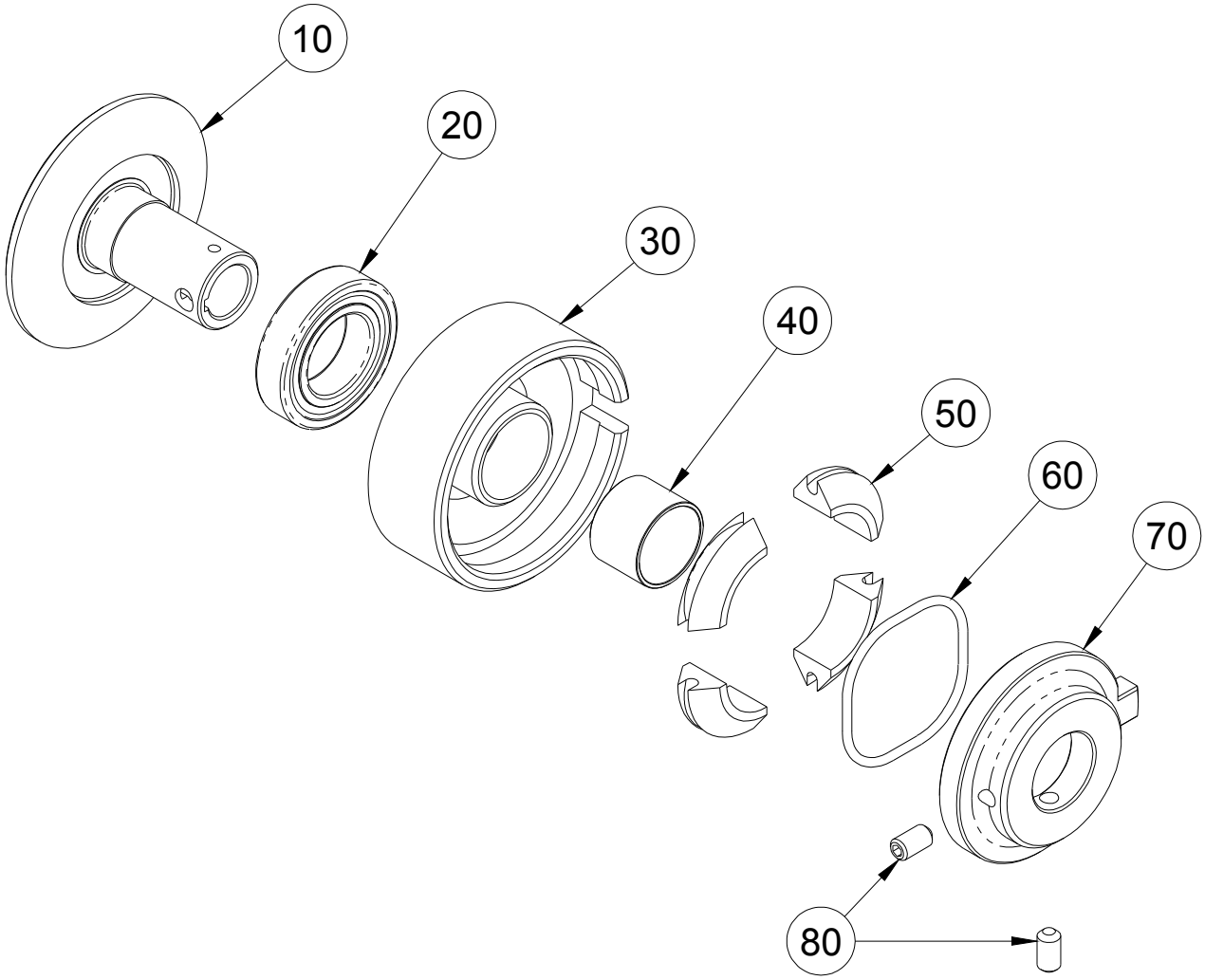

Figure 5 – Clutch Assembly

Note: 21006 (small clutch) shown

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Spindle	30	Drum w/ Bushing	50	Weight (Shoe)	70	Face Plate
20	Bearing	40	Bushing	60	Spring	80	Set Screw

CUSTOMER PARTS LIST

Assembly # **21006 (B430), 21006/21005 (B436), 21005 (B440 / B446)**
Clutch Assembly

Item #	Part # (430)	Part # (436)	Part # (440/446)	Description	Qty	Eff. Date
10	11021	11021 (5.5HP) 11045 (9HP)	11045	Spindle	1	08/21/2007
20	11020	11020 (5.5HP) 11044 (9HP)	11044	Bearing	1	08/21/2007
30	21022	21022 (5.5HP) 21046 (9HP)	21046	Drum w/ Bushing	1	08/21/2007
40	11023	11023 (5.5HP) 11012 (9HP)	11012	Bushing	1	08/21/2007
50	11025	11025 (5.5HP) 11014 (9HP)	11014	Weight (Shoe)	4	08/21/2007
60	11024	11024 (5.5HP) 11013 (9HP)	11013	Spring	1	08/21/2007
70	11026	11026 (5.5HP) 11015 (9HP)	11015	Face Plate	1	08/21/2007
80	50117	50117	50117	Set Screw	2	08/21/2007

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GEARBOX ASSEMBLY

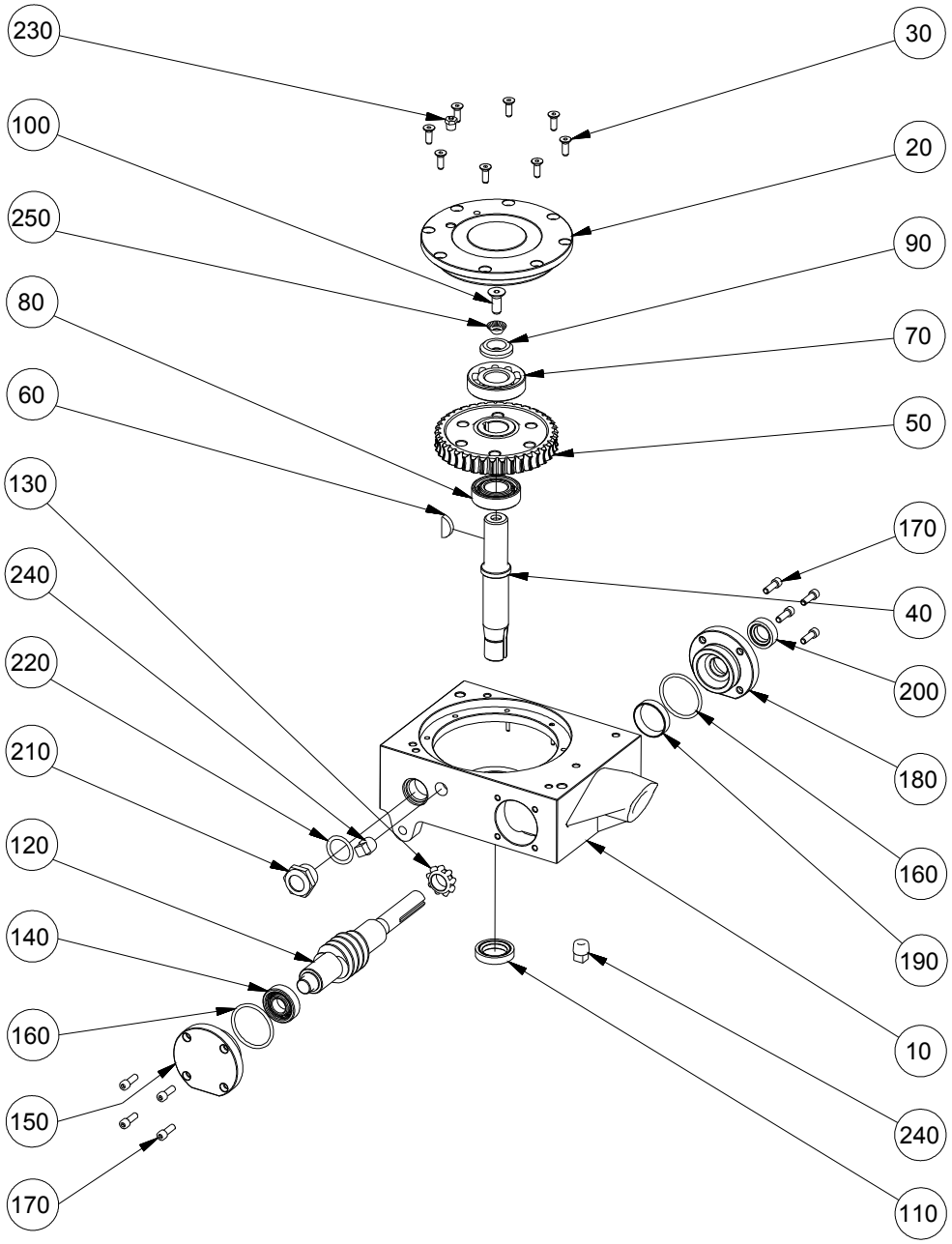

Figure 6 – Gearbox Assembly

Note: B436 (small) gearbox shown

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Gear Housing	80	Ball Bearing	150	End Cap	220	O Ring
20	Cover	90	Pressure Washer	160	O Ring	230	Relief Valve
30	Flat Hd. Screw	100	Flat Hd. Screw	170	Soc. Hd. Screw	240	Pipe Plug
40	Main Shaft	110	Oil Seal	180	Flange	250	Lock Washer
50	Worm Gear	120	Worm shaft	190	Bearing Cup		
60	Woodruff Key	130	Bearing Cone	200	Oil Seal		
70	Taper Bearing	140	Ball Bearing	210	Sight Plug		

Assembly # **20921 (B430 / B436 / B440), 20928 (B446)**
Gearbox Assembly

Item #	(B430 / B436 / B440)	(B446)	Description	Qty	Eff. Date
10	10921	10928	Gear Housing	1	5/1/2004
20	10917	10929	Gearbox Cover	1	1/1/1997
30	10916	10903	FHSCS, 1/4-20 x 3/4”LG (5/16-18 x 1”LG)	8	5/1/2002
40	10618	10607	Main Shaft	1	4/7/1998
50	10616	10605	Main Gear	1	1/1/1997
60	10615	10609	Woodruff Key	1	1/1/1997
70	10614	10603	Taper Bearing, 4T-30305 (4T-30306)	1	3/1/2004
80	10617	14256	Bearing, 6205 (6207)	1	1/1/1997
90	10613	10613	Pressure Washer	2	1/1/1997
100	10601	10601	FHSCS, 3/8-16 x 1”LG	8	1/1/1997
110	10621	10610	Oil Seal, 1 1/16”ID x 1 5/8”OD x 5/16”THK, EPDM (1 3/8”ID x 2.129”OD x 0.437”THK, EPDM)	1	1/1/1997
120	10279	10280	Wormshaft, RH	1	1/1/1997
130	10220	10229	Bearing Cone, 4T-6075 (4T-LM11949V1#BW)	1	9/16/2003
140	10224	10203	Ball Bearing, 6203 (6303C3T)	1	9/16/2003
150	10226	10215	End Cap	1	9/16/2003
160	10227	10228	O-Ring, #224, EPDM (#227)	2	1/1/1997
170	10213	10213	SHCS, 1/4-20 x 3/4”LG,Zinc Plated	8	1/1/1997
180	10217	10231	Flange	1	1/1/1997
190	10219	10230	Bearing Cup, 4T-6157 (4T-LM11910#BW)	1	1/1/1997
200	10214	10214	Oil Seal, 3/4”IDd x 1-1/4”OD x 3/8”THK, EPDM	1	1/1/1997
210	10930	10930	Sight Plug	1	1/1/1997
220	10931	10931	O-Ring, #213, EPDM	1	1/1/1997
230	10909	10909	Relief Valve	1	1/1/1997
240	10911	10911	Pipe Plug, 3/8 NPT	2	1/1/1997
250	10637	10637	Lock Washer C/S 3/8”Dia	1	2/07/06

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HANDLE ASSEMBLY

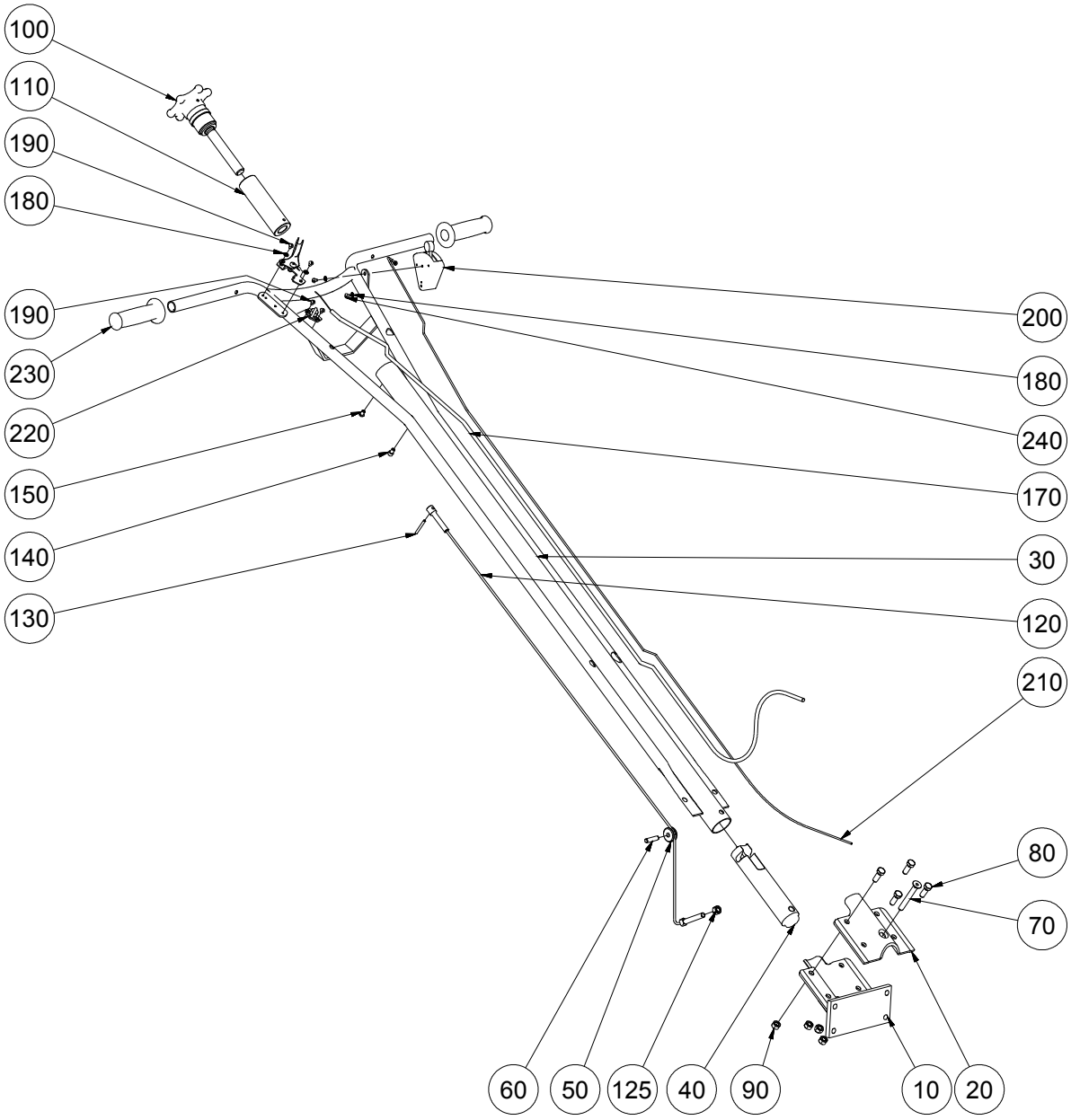

Figure 7 - Handle Assembly

Note: Not all items shown above may be included with your trowel, refer to attached parts list.

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Handle Bracket	70	Flat Hd. Screw	125	Hex Nut	190	Round Hd. Screw
20	Handle Clamp	80	Hex Hd. Screw	130	Pin	200	Deadman Switch
30	Rigid Handle	90	Locknut	140	Soc. Hd. Screw	210	Deadman Wire
40	Support Block	100	Hand Knob Assy.	150	Round Hd. Screw	230	Handle Grips
50	Pulley	110	Slide Bushing	170	Throttle Assy	240	Hex Hd. Screw
60	Pin	120	Pitch Adj. Cable	180	Lockwasher		

Assembly # **20520 (B430 / B436 / B440), 20562 (B446)**
Handle Assembly

Item #	(B430 / B436 / B440)	(B446)	Description	Qty	Eff. Date
10	20517	20564	Handle Bracket Standard	1	1/1/1997
20	10518	10505	Handle Clamp	1	1/1/1997
30	20519	20563	Handle Tube	1	1/1/1997
40	10516	10503	Support Block	1	1/1/1997
50	10515	10515	Pulley	1	1/1/1997
60	10514	10514	Dowel Pin	1	1/1/1997
70	10538	10506	HHCS 3/8-16 x 2-1/4”LG (2-1/2”LG)	1	1/1/1997
80	10507	10507	HHCS 3/8-16 x 1"LG	4	1/1/1997
90	10317	10317	Nylock Nut 3/8-16	6	1/1/1997
100	20302	20301	Hand Knob Assembly	1	1/1/1997
110	10314	10314	Slide Bushing	1	1/1/1997
120	20321	20322	Cable	1	1/1/1997
125	10901	10901	Hex Nut 3/8-16	1	1/1/1997
130	10309	10309	Pin 3/16”Dia x 1-1/2”LG	1	1/1/1997
140	10522	10510	SHCS 1/4-20 x 1/4"LG (3/8”LG)	1	1/1/1997
150	10511	10511	RHMS 1/4-20 x 3/8"LG	1	1/1/1997
170	10508	10508	Throttle Assembly, Cable c/w Lever	1	1/1/1997
180	10703	10703	Lock Washer, #10 Dia, Internal	4	1/1/1997
190	10513	10513	RHMS #10-24 x 1/4"LG	2	1/1/1997
200	20713	20713	Safety Switch Assembly	1	2/26/2002
210	20702	20703	Wire Assembly	1	1/1/1997
230	10509	10509	Handle Grip	1	1/1/1997
240	10711	10711	HHCS M5-0.8 x 12MM LG	2	04/02/2008

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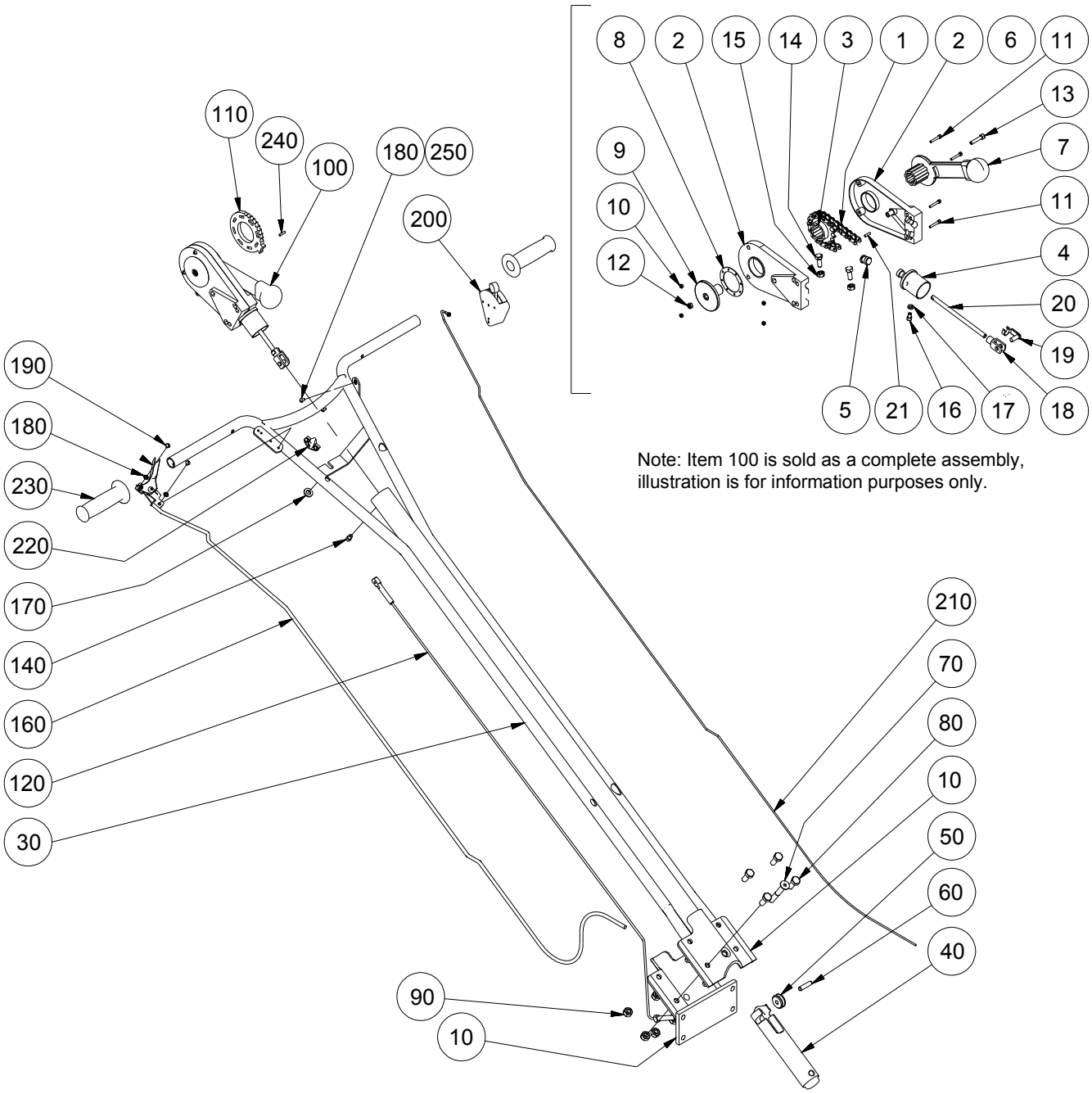
INSTAPITCH HANDLE ASSEMBLY



Note: Item 100 is sold as a complete assembly, illustration is for information purposes only.

Figure 8 - Rigid Handle Assembly (Optional Instapitch)

Note: Not all items shown above may be included with your trowel, refer to attached parts list.
Small Rigid Handle Shown (B436).

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Handle Bracket	80	Hex Bolt	140	Socket Bolt	210	Deadman Wire
20	Handle Clamp	90	Locknut	150	Round Hd. Screw	220	On/Off Switch
30	Rigid Handle	100	Hand Lever Assy.	160	Throttle Control	230	Handle Grips
40	Support Block	110	Latch Disc	170	Flat Washer	240	Clevis Pin
50	Pulley	120	Instapitch Cable	180	Lock Washer	250	Hex Hd. Screw
60	Pin	125	Hex Nut	190	Round Hd. Screw		
70	Flat/Hex Bolt	130	Pin	200	Deadman Switch		

CUSTOMER PARTS LIST

Assembly # **20502 (B430 / B436 / B440), 20581 (B446)**
Handle Assembly (Instapitch Option)

Item #	(B430 / B436 / B440)	(B446)	Description	Qty	Eff. Date
10	20518	20564	Handle Bracket	1	1/1/1997
20	10505	10505	Handle Clamp	1	1/1/1997
30	11510	11513	Rigid Handle, Standard	1	1/1/1997
40	10503	10503	Support Block	1	1/1/1997
50	10515	10515	Cable Pulley	1	1/1/1997
60	10514	10514	Dowel Pin	1	1/1/1997
70	11583	11506	FHCS 3/8-16 x 3”LG (HHCS 2-1/2”LG)	1	1/1/1997
80	10507	10507	HHCS 3/8-16 x 1"LG, Gr5	4	1/1/1997
90	10317	10317	Nylock Nut 3/8-16	5	1/1/1997
100	14250	14250	Instapitch Adjust Lever	1	1/1/1997
110	14326	14326	Latch Disc, Instapitch	1	2/07/06
120	11539	20323	Pitch Adjust Cable	1	1/1/1997
125	10901	10901	Hex Nut 3/8-16	1	1/1/1997
130	10309	10309	Pin 3/16”Dia x 1-1/2”	1	1/1/1997
140	10522	10522	SHCS 1/4-20 x 1/4”LG Plain	1	1/1/1997
150	10511	10511	RHMS 1/4-20 x 3/8”LG, Slotted	1	1/1/1997
160	10508	10508	Throttle Assembly, Cable c/w Lever	1	1/1/1997
170	10919	10919	Flat Washer, 5/16”Dia	1	1/1/1997
180	10703	10703	Lock Washer, #10 Internal Tooth	4	1/1/1997
190	10513	10513	RHMS #10-24 x 1/4"LG	6	1/1/1997
200	20713	20713	Safety Switch Assy	1	1/1/1997
210	20702	20703	Wire Assembly	1	1/1/1997
220	50062	50062	Stop Switch	1	1/1/1997
230	10509	10509	Handle Grips	2	1/1/1997
240	12469	12469	Clevis Pin 3/16”Dia x 5/8”LG	1	2/07/06
250	10711	10711	HHCS M5-0.8 x 12MM LG	2	04/02/2008

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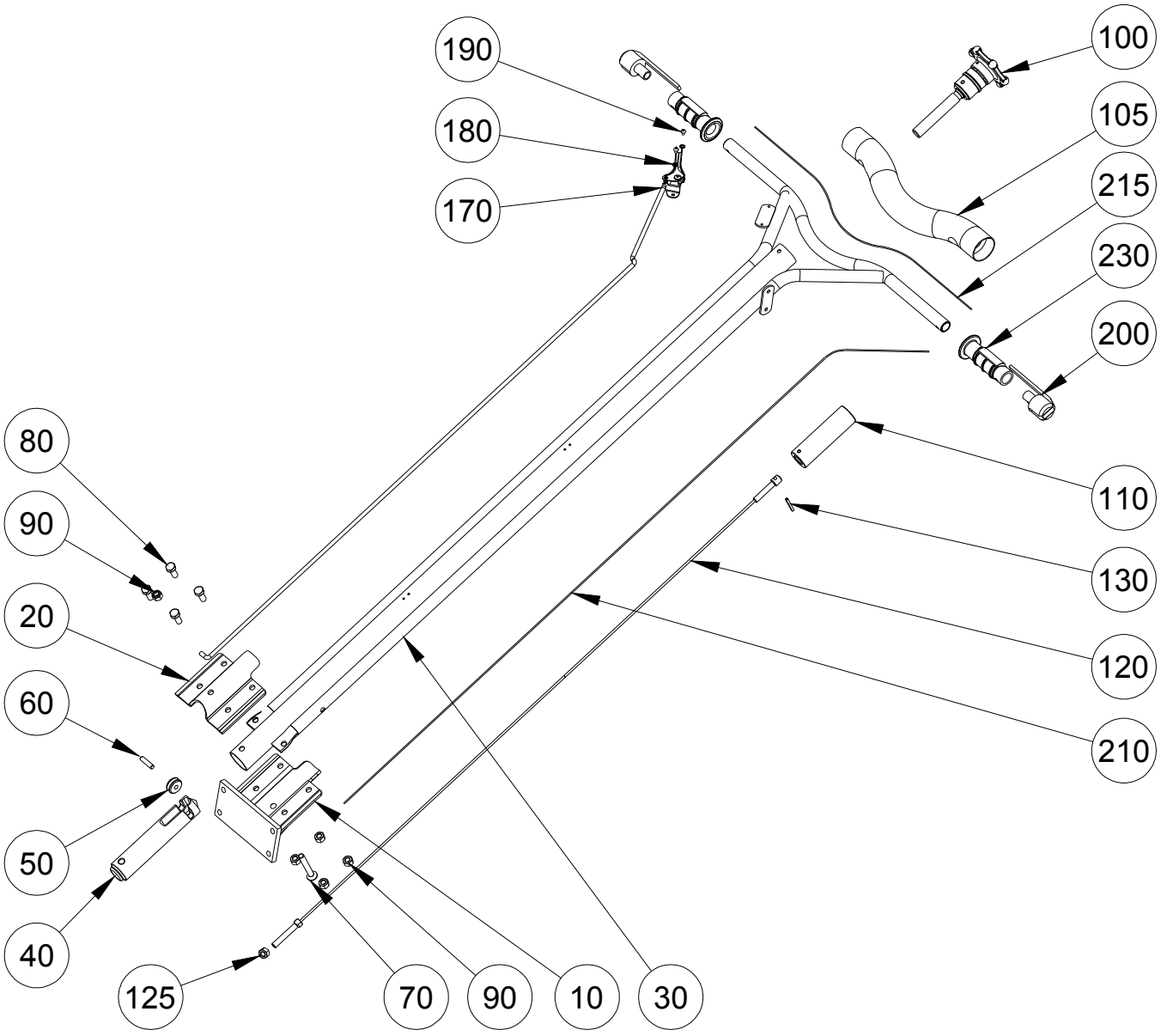

Figure 9 - Rigid Handle Assembly, European Safety Specification

Note: Not all items shown above may be included with your trowel, refer to attached parts list.

Item #	Description	Item #	Description	Item #	Description	Item #	Description
10	Handle Bracket	70	Flat Hd. Screw	120	Pitch Adj. Cable	200	Deadman Switch
20	Handle Clamp	80	Hex Bolt	125	Hex Nut	210	Deadman Wire 1
30	Rigid Handle	90	Locknut	130	Spring Pin	215	Deadman Wire 2
40	Support Block	100	Hand Knob Assy.	170	Throttle Assy.	230	Handle Grips
50	Pulley	105	Handle Pad	180	Lock Washer		
60	Pin	110	Slide Bushing	190	Round Hd. Screw		

CUSTOMER PARTS LIST

Assembly # **20601E (B430 / B436 / B440), 20562E (B446)**
European Safety Specification Handle Assembly

Item #	(B430 / B436 / B440)	(B446)	Description	Qty	Eff. Date
10	20518	20564	Handle Bracket	1	08/20/2007
20	10505	10505	Handle Clamp	1	08/20/2007
30	20563	20563	Handle Tube	1	08/20/2007
40	10503	10503	Support Block	1	08/20/2007
50	10515	10515	Pulley	1	08/20/2007
60	10514	10514	Dowel Pin	1	08/20/2007
70	20539	20539	Flat Hd. Cap Screw, M10-1.5 x 70mm	1	08/20/2007
80	13348	13348	Hex Hd. Cap Screw, M10-1.5 x 25mm	4	08/20/2007
90	11802	11802	Nylock Nut, M10-1.5	5	08/20/2007
100	20301	20301	Hand Knob Assembly w/ Bearings	1	08/20/2007
105	14302	14302	Handle Shield Pad	1	08/20/2007
110	10308	10308	Slide Bushing	1	08/20/2007
120	20323	20305	Cable Assy, Pitch Control	1	08/20/2007
125	10317	10317	Nylock Nut, 3/8”-16UNC	1	08/20/2007
130	10309	10309	Spring Pin	1	08/20/2007
170	10508	10508	Throttle Assembly, Cable c/w Lever	1	08/20/2007
180	10703	10703	Lock Washer, #10 Dia, Internal	2	08/20/2007
190	10513	10513	Round Head Machine Screw, #10	2	08/20/2007
200	11643	11643	Deadman Lever Assembly	2	08/20/2007
210	20702	20703	Wire Assembly, Safety, 93” Euro	1	08/20/2007
215	20515	20515	Wire Assembly, Safety, 27” Euro	1	08/20/2007
230	11641	11641	Handle Grip, Deadman Lever	2	08/20/2007

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BLADE KIT ASSEMBLY

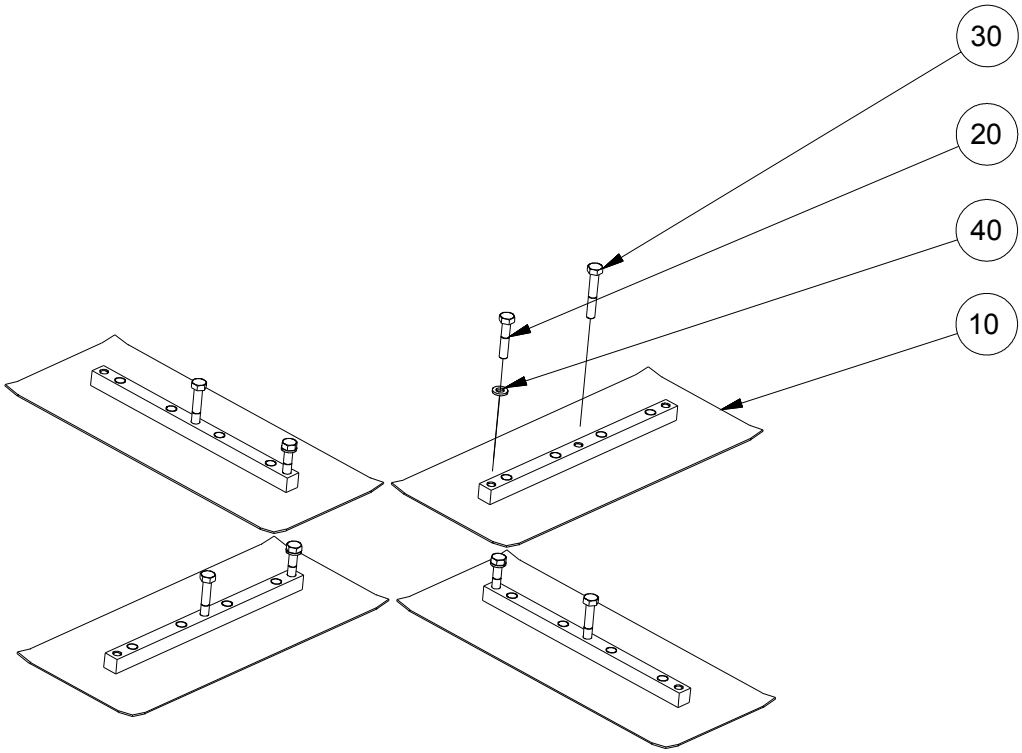

Figure 10 – Finishing Blade Kit

Item #	Description
10	Finishing Blade
20	Hex Bolt
30	Hex Bolt
40	Lock Washer

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B430 FINISH BLADES, IMPERIAL

Item #	Part #	Description	Qty	Eff. Date
10	10400	Trowel Blade, Imperial, Finish, 6” x 10-1/2”	4	08/20/2007
20	10401	Hex Hd. Cap Screw, 5/16”-18UNC x 1-1/2"	4	08/20/2007
30	10403	Hex Hd. Cap Screw, 5/16”-18UNC x 2"	4	08/20/2007
40	10402	Lock Washer, 5/16"	8	08/20/2007

B436 / B440 FINISH BLADES, IMPERIAL

Item #	Part #	Description	Qty	Eff. Date
10	20414	Trowel Blade, Imperial, Finish, 6” x 14”	4	08/20/2007
20	10401	Hex Hd. Cap Screw, 5/16”-18UNC x 1-1/2"	4	08/20/2007
30	10403	Hex Hd. Cap Screw, 5/16”-18UNC x 2"	4	08/20/2007
40	10402	Lock Washer, 5/16"	8	08/20/2007

B446 FINISH BLADES, IMPERIAL

Item #	Part #	Description	Qty	Eff. Date
10	20410	Trowel Blade, Imperial, Finish, 6” x 18”	4	08/20/2007
20	10401	Hex Hd. Cap Screw, 5/16”-18UNC x 1-1/2"	8	08/20/2007
30	10403	Hex Hd. Cap Screw, 5/16”-18UNC x 2"	4	08/20/2007
40	10402	Lock Washer, 5/16"	12	08/20/2007

B430 FINISH BLADES, METRIC

Item #	Part #	Description	Qty	Eff. Date
10	20458	Trowel Blade, Metric, Finish, 6” x 10”	4	08/20/2007
20	10452	Hex Hd. Cap Screw, M8-1.25 x 40mm	4	08/20/2007
30	10453	Hex Hd. Cap Screw, M8-1.25 x 50mm	4	08/20/2007
40	10402	Lock Washer, 5/16"	8	08/20/2007

B436 / B440 FINISH BLADES, METRIC

Item #	Part #	Description	Qty	Eff. Date
10	20457	Trowel Blade, Metric, Finish, 6” x 14”	4	08/20/2007
20	10452	Hex Hd. Cap Screw, M8-1.25 x 40mm	4	08/20/2007
30	10453	Hex Hd. Cap Screw, M8-1.25 x 50mm	4	08/20/2007
40	10402	Lock Washer, 5/16"	8	08/20/2007

B446 FINISH BLADES, METRIC

Item #	Part #	Description	Qty	Eff. Date
10	20456	Trowel Blade, Metric, Finish, 6” x 18”	4	08/20/2007
20	10452	Hex Hd. Cap Screw, M8-1.25 x 40mm	8	08/20/2007
30	10453	Hex Hd. Cap Screw, M8-1.25 x 50mm	4	08/20/2007
40	10402	Lock Washer, 5/16"	12	08/20/2007

B436E ELECTRIC WALK BEHIND ASSEMBLY

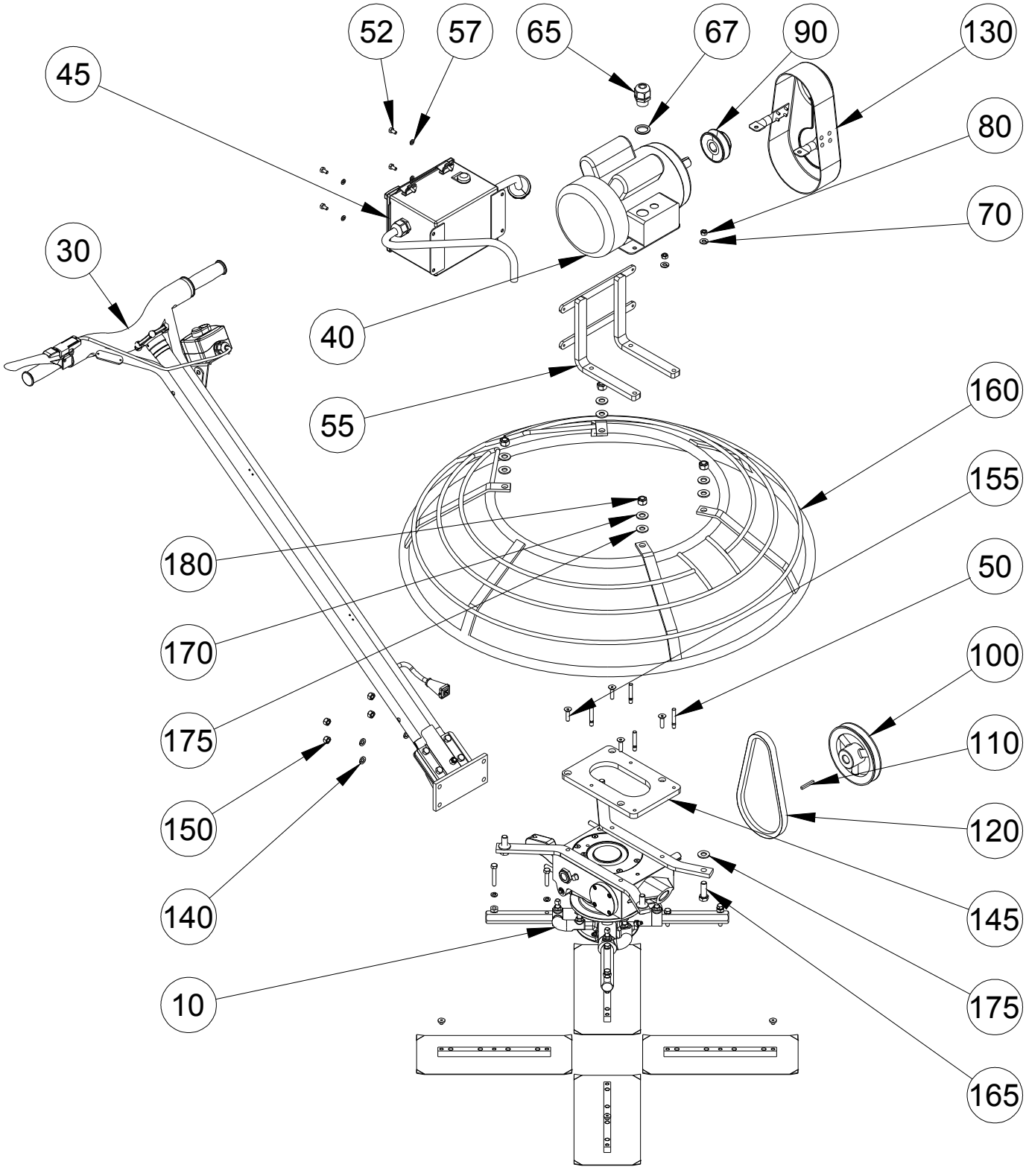

Figure 11 – Complete Electric Trowel B436E

CUSTOMER PARTS LIST

Assembly # **Electric 36" Walk-Behind Trowel Assembly (B436E)**
Assembly List

Item #	Part #	Description	Qty	Eff. Date
10	20903	B436 Base Unit (See Figure 2)	1	11/15/2007
30	20507	Handle Assembly, Electric (See Figure 12)	1	11/15/2007
40	50559	Electric Motor, 3HP, 230V, 1-Phase	1	11/15/2007
45	51080	Starter Box Assembly, 3HP, 230V, 1-Phase	1	11/15/2007
50	14278	Stud, Combo, Motor	4	11/15/2007
52	30031	HHCS, ¼"-20UNC X 3/4" LG.	4	04/30/2008
55	50151	Bracket, Motor and Starter	1	04/30/2008
57	10521	Lock Washer, 1/4"	4	04/30/2008
65	50636	Strain Relief, Power Cable, Motor	1	11/15/2007
67	50637	Lock Nut, Strain Relief, Power Cable	1	11/15/2007
70	11614	Lock Washer, M8	4	11/15/2007
80	11615	Hex Nut, M8-1.25	4	11/15/2007
90	14517	Sheave, Motor	1	11/15/2007
100	14285	Sheave, Gearbox	1	11/15/2007
110	13597	Key, 3/16" Square	1	11/15/2007
120	11300	V-Belt, 4L250	1	04/30/2008
130	21064	Belt Guard Assembly, Electric	1	11/15/2007
140	10902	Lock Washer, 3/8"	4	11/15/2007
145	11741	Motor Mount Plate, Electric	1	11/15/2007
150	10901	Hex Nut, 3/8-16UNC"	4	11/15/2007
155	50529	FHSCS, 5/16"-18UNC X 1-1/4" LG.	4	04/30/2008
160	20447	Safety Ring, Removable, B436	1	11/15/2007
165	30019	HHCS, ½"-13UNC X 1-1/2" LG.	4	11/15/2007
170	50026	Washer, Flat, 1/2" SAE	4	11/15/2007
175	11296	Rubber Washer, 5/8" Dia.	8	11/15/2007
180	10547	Lock Nut, Hex, 1/2"-13UNC, Nylock	8	11/15/2007
999	51085	Fuse, 3HP 230V, B436E (Not Shown)	2	04/30/2008

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ELECTRIC HANDLE ASSEMBLY (B436E)

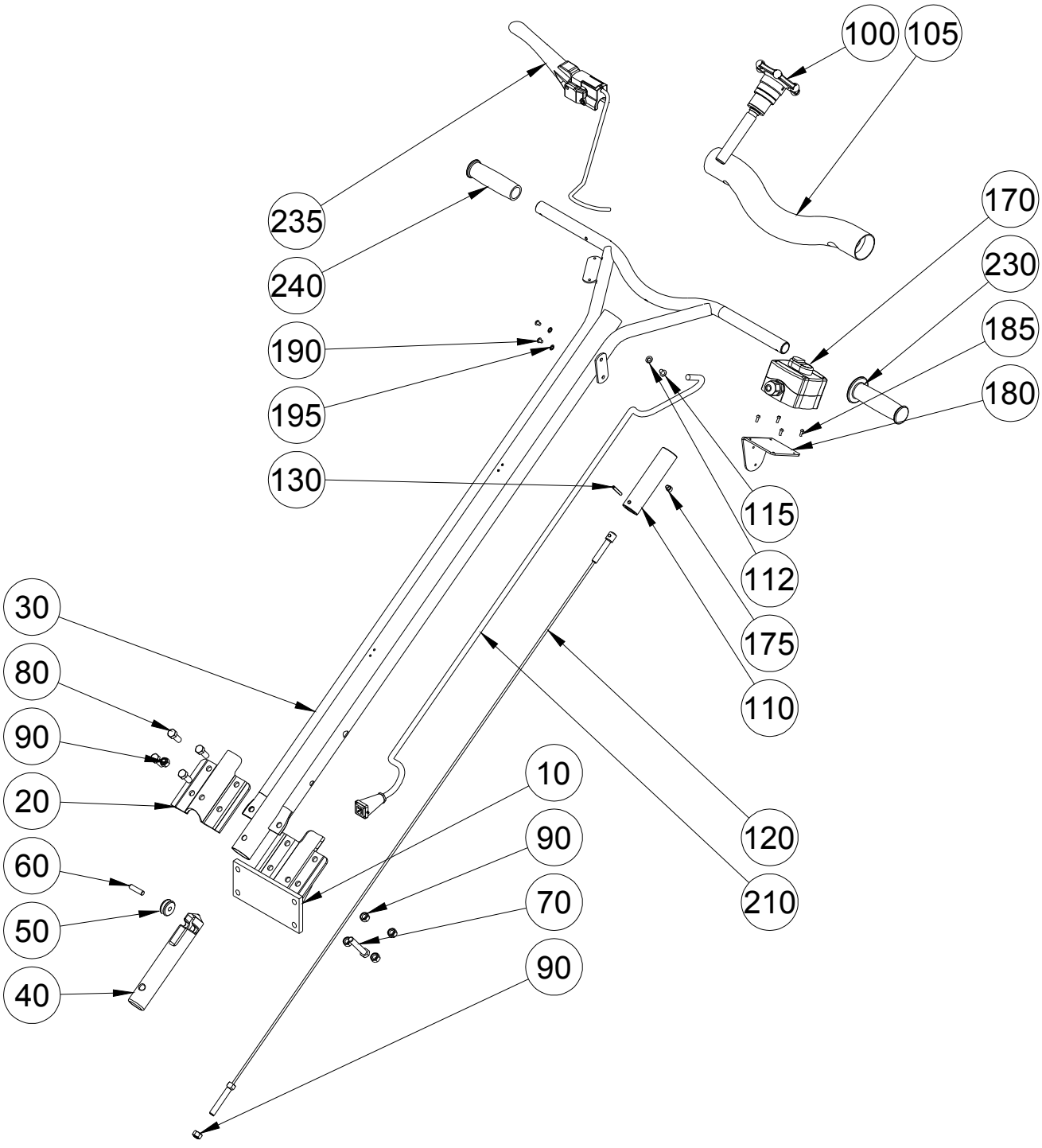

Figure 12 – Electric Trowel Handle Assembly

Assembly # **Handle, Electric 36” Walk-Behind (B436E)**
Assembly List

Item #	Part #	Description	Qty	Eff. Date
10	20517	Handle Mounting Bracket	1	11/15/2007
20	10518	Handle Clamp	1	11/15/2007
30	20519	Handle, Large, 46” Std. Tube	1	11/15/2007
40	10516	Support Block	1	11/15/2007
50	10515	Pulley, Lower	1	11/15/2007
60	10514	Pin, Pulley	1	11/15/2007
70	10538	HHCS, 3/8”-16UNC X 2-1/4” LG.	1	11/15/2007
80	10507	HHCS, 3/8”-16UNC X 1” LG.	4	11/15/2007
90	10317	Lock Nut, 3/8”-16UNC, Nylock	6	11/15/2007
100	20302	Hand Knob Assembly	1	11/15/2007
105	14302	Shield Pad, Handle	1	11/15/2007
110	10314	Threaded Slide Bushing	1	11/15/2007
112	10521	Lock Washer, 1/4”	1	11/15/2007
115	10511	RHMS, 1/4”-20UNC X 1/4” LG, Slotted	1	11/15/2007
120	20323	Pitch Control Cable Assembly	1	11/15/2007
130	10315	Spring Pin	1	11/15/2007
170	50097	Switch Assembly, On/Off Push Button	1	11/15/2007
175	10522	SHCS, 1/4"-20UNC X 1/4" LG.	1	04/30/2008
180	20594	Mounting Bracket, On/Off Switch Box	1	11/15/2007
185	50149	RHMS, #6-32UNC X 3/8” LG, Cross	4	11/15/2007
190	10513	RHMS, #10-24UNC X 1/4” LG, Slotted	2	11/15/2007
195	10703	Lock Washer, 1/4” Internal Tooth	2	11/15/2007
210	50638	Cable Assembly w/ Plug, Control	1	11/15/2007
230	10509	Handle Grip, Rubber	1	11/15/2007
235	11850	Safety Switch Assembly w/ Wire	1	04/30/2008
240	10669	Handle Grip, Rubber, Open End	1	11/15/2007

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TROUBLESHOOTING

WON'T START
- **Throttle fully open**
- **Hand lever wire broken**
- **No gas**
- **Dirty gas**
- **Gas filter plugged**
- **Gas line plugged**
- **Hole in gas line**
- **Gas supply valve turned off**
- **Dead-man safety switch**
- **Safety switch wire or connectors not making good contact**
- **Other engine problems (Refer to engine manual)**

STARTS BUT NO HIGH SPEED
- **Engine problems**
- **Throttle cable broken or seized**
- **Throttle lever and connectors loose or out of adjustment**
- **Clutch shoes worn**

STARTS AT HIGH SPEED, WON'T SLOW DOWN
- **Same as above**

ENGINE WON'T STOP
- **Safety switch, wire or connectors not making good contact**

ENGINE STARTS BUT WON'T TURN TROWELS AT ANY SPEED
- **Clutch seized**
- **No weights or broken clutch**
- **Wrong belt**
- **Broken or missing key**
  - **Clutch**
  - **Pulley**
  - **Worm gear (countershaft)**
  - **Main gear**
  - **Spider plate**
- **Gearbox seized**

TROWELS TURN, ENGINE AT IDLE
- **Idle too fast**
- **Belt too tight**
- **Clutch seized**
- **Pulley out of alignment**

TROWELS BLADES WEARING UNEVENLY
- **Spider plate seized**
- **Arms bent**
- **Adjusting screws (carriage bolts) incorrectly set**

MACHINE JUMPS ON FLOOR
- **Concrete hardened on bottom of spider plate**
- **Trowels unevenly worn**
- **Spider plate seized**
- **Spider plate loose**
- **Trowel arms bent**
- **Adjusting screws (carriage bolts) incorrectly set - use spider plate adjustment jig (pg,13)**
- **Mainshaft bent**

PITCH CONTROLS WILL NOT OPERATE BLADES
- **Cable broken or out of adjustment**
- **Slot screw missing (under-side of handle)**
- **Spider plate seized**
- **Pressure plate and/or yoke arm broken or badly worn**
- **Hand crank adjuster malfunctioning**

BELT WEARING RAPIDLY
- **Belt adjusted improperly**
- **Pulley out of alignment**
- **Wrong belt/defective belt**
- **Clutch sticking**
- **Gearbox seizing**

OIL LEAKS

a) Top of gearbox
- **Engine leaks**
- **Relief valve broken**
- **Too much oil in gearbox**
- **Set screw missing in cover**

b) Between end cap and gearbox (recoil side)
- **"O" ring damaged**
- **End cap not tight**

c) At mainshaft or countershaft
- **Relief valve seized**
- **Shaft and/or seal worn**

TROWEL BLADES WILL NOT TURN
- **Yoke arm broken**
- **Key sheared**

SPIDER PLATE HARD TO GREASE
- **Fittings plugged**
- **Cement in grease grooves of arms**
- **Grease fittings too tight**

SPECIFICATIONS

WALK-BEHIND TROWEL

Model	Path	Power Source (gas option)	Float Blade Size	Finish Trowel Size	Combination Blade Size	Float Pan	Operating Weight
B430	30" (75 cm)	5.5 hp Honda OHV	N/A	6" x 10-1/2" (15 x 27 cm)	N/A	N/A	Up to 165 lb. (75 kg)
B436	36" (90 cm)	5.5 hp Honda OHV 9 hp Honda OHV	10" x 14" (25 x 36 cm)	6" x 14" (15 x 36 cm)	8" x 14" (20 x 36 cm)	38 ½" (98 cm)	Up to 165 lb. (75 kg)
B436E	36" (90 cm)	3 hp, 230V, 1 Phase Electric Motor	10" x 14" (25 x 36 cm)	6" x 14" (15 x 36 cm)	8" x 14" (20 x 36 cm)	38 ½" (98 cm)	Up to 165 lb. (75 kg)
B440	40" (100 cm)	9 hp Honda OHV	10" x 14" (25 x 36 cm)	6" x 14" (15 x 36 cm)	8" x 14" (20 x 36 cm)	NA	Up to 165 lb. (75 kg)
B446	46" (120 cm)	9 hp Honda OHV 9 hp Robin OHV 11 hp Honda OHV 11 hp Robin OHV	10" x 18" (25 x 46 cm)	6" x 18" (15 x 46 cm)	8" x 18" (20 x 46 cm)	48 ½" (123 cm)	Up to 245 lb. (110 kg)

Walk Behind Trowel (GASOLINE)	
Blade Speed (RPM) Engine Speed (RPM)	130-160 3600
Clutch Type Variable Speed	Centrifugal Yes
Gearbox Oil Gearbox Oil Capacity Engine Fuel Engine Oil Alert Cooling Starting	Agma 8 compounded gear oil 16 oz. (473 ml), 19 oz. (562 ml) Gasoline – Unleaded Yes Air Recoil Starter - Manual
Dead-man Safety Switch Fuel Capacity (approximately) Running Time (approximately)	Yes 3 Gal. (12.5 L) 2 ½ hours
Number of Blades	4
Engine Acoustic Power Lwa (dB) Engine Acoustic Pressure Lpa (Db) Level of Vibration Vibration value on the handle	97-103 82-86 1.1-1.5 7.0 aw
Options	Oil-Bath Spider Assembly Insta-Pitch Lever Hoist Hook Carry Bar Folding Handle

- *Power rating conforming to DIN 6270 & ISO 3048/1 Std.*
- *RPM results may vary by engine option.*

Declaration of Conformity / Certificat de conformité / Gelijkvormigheids certificaat Declaración de Conformidad/Declaração de Conformidade/Dichiarazione Di Conformita

We: Bartell Morrison Inc.
31 SunPac Blvd
Brampton, Ontario, Canada
L6S 5P6
Tel: 905-458-5455 Fax: 905-458-5484

Declare under our sole responsibility that the product to which this declaration relates is in conformity with the following standard(s) or other normative documents.
Déclarons sous notre responsabilité que le produit cette déclaration est conforme aux normes suivantes ou d'autres documents habituels.
Verklaren onder onze verantwoordelijkheid dat het product naar welke de verklaring verwijst conform de volgende standaards of anders gebruikelijke documenten is.
Declaramos bajo nuestra única responsabilidad que el producto en lo que esta declaración concierne, es conforme con la siguiente normativa u otros documentos.
Declara sob sua responsabilidade que o produto a quem esta declaração interessar, está em comformidade com os seguintes documentos legais ou normas directivas.
Dichiariamo sotto la ns. unica responsibilita che il prodotto al quale questa dichiarazione si riferisce, è fabbricato in conformità ai seguenti standard e documenti di normative.

EN 349:1993	Safety of Machinery - Minimum gaps to avoid crushing of parts of the human body.
EN 418:1993	Safety of Machinery - Emergency stop equipment, functional aspects - Principles for design
EN 12100-1:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 1: Basic Terminology, methodology
EN 12100-2:2003	Safety of Machinery - Basic Concepts, general principles for design - Part 2: Technical Principles
EN ISO 4872:1978	Acoustics - Measurement of Airborne noise emitted by construction equipment intended for outdoor use - Method for determining compliance with noise limits.
EN ISO 5349-1:2001	Mechanical vibration. Measurement and evaluation of human exposure to hand-transmitted vibration. General requirements
EN ISO 5349-2:2001	Mechanical vibration. Measurement and assessment of human exposure to hand-transmitted vibration. Practical guidance for measurement at the workplace.

Following the provisions of Directive(s):
Suivant les directive(s) déterminées:
Volgens de vastgestelde richtlijnen:
Siguiendo las directiva(s):
No sequimento das clausulas da Directiva(s):
Seguendo quanto indicato dalla Direttiva(s):

98/37/EC	Machinery Directive
2000/14/EC	Noise Directive
2001/95/EC	General Product Safety Directive
2002/95/EC	Reduction of Hazardous Waste Directive

Technical Characteristics:
Caractéristiques techniques:
Technisch gegevens:
Características Técnicas:
Caracteristicas Técnicas:
Qualitàs di tecnico:

Model Modéle Type Modelo Modelo Modello	MachineSerial Number Numéro de Série machine Serienummer machine Máquina número de série Numero de serie da maquina Numero di seria la macchina	Engine Serial Number Numéro de Série moteur Serienummer motor Motor número de série Numero de serie do motor Numero di seria la motore	Weight Masse Gewicht Masa Massa Massa
B436 Walk Behind Power Trowel			Lbs (kg) 125 (56.8)

Noise Level Puissance acoustique Geluidniveau Nivel Sonoro Nivel del Ruido Potenza Acustica	Pressure level Pression acoustique Geluidsdrukniveau Nivel Acustico Pressão Acústica Pressione Acustica	Vibration level Niveau de vibration Vibratieniveau Nivel de Vibracion Nivel de Vibração Livello di Vibrazione
Lwa (dB)	Lpa (Db)	a_{hv} (m/s^2)
98	99	1.5

The Technical Construction file is maintained at:
Les fiches techniques de construction sont gardées à:
Het technische constructie document wordt bewaard te:
El archivo técnico de construcción se mantiene en:
O arquivo técnico de construção é mantido no (a):
L'originale dossier tecnico di construzione è conservato presso:

Bartell Morrison Inc.
31 SunPac Blvd.
Brampton, Ontario, Canada
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Facsimile: 905-458-5484

The authorized representative is:
Le représentant autorisé est:
Gemachtigd vertegenwoordiger is:
La representación autorizada es:
O representante autorizado é:
Il rappresentate autorizzato:

Mr. Robert Leggitt
Manager - Engineering
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Telephone: 905-458-5455
Facsimile: 905-458-5484

Signature of Authorized Person:
Signature de la personne autorisée:
Handtekening van gemachtigd persoon:
Firma de la persona autorizada:
Assinatura de pessoa autorizada:
Firma della persona autorizzata:

Typed name of Authorized Person:
Nom dactlyographié de la personne autorisée:
Getypte naam van gemachtigd persoon:
Nombre de la persona autorizada:
Nome datilografado da pessoa autorizada:
Nome della persona autorizzata:

Robert S. Leggitt

Title of Authorized Person:
Titre de la personne autorisée:
Functie van gemachtigd persoon:
Cargo de la persona autorizada:
Titulo da pessoa autorizada:
Posizione della persona autorizzata:

Manager - Engineering

Date and place of issue:
Date et place d'émission:
Datum en plaats van afgifte:
Fecha y lugar de emision:
Data e lugar de emissão:
Data e luogo di emissione:

8.17.2007

Brampton, Ontario, Canada

NOTES